

Figure 1A

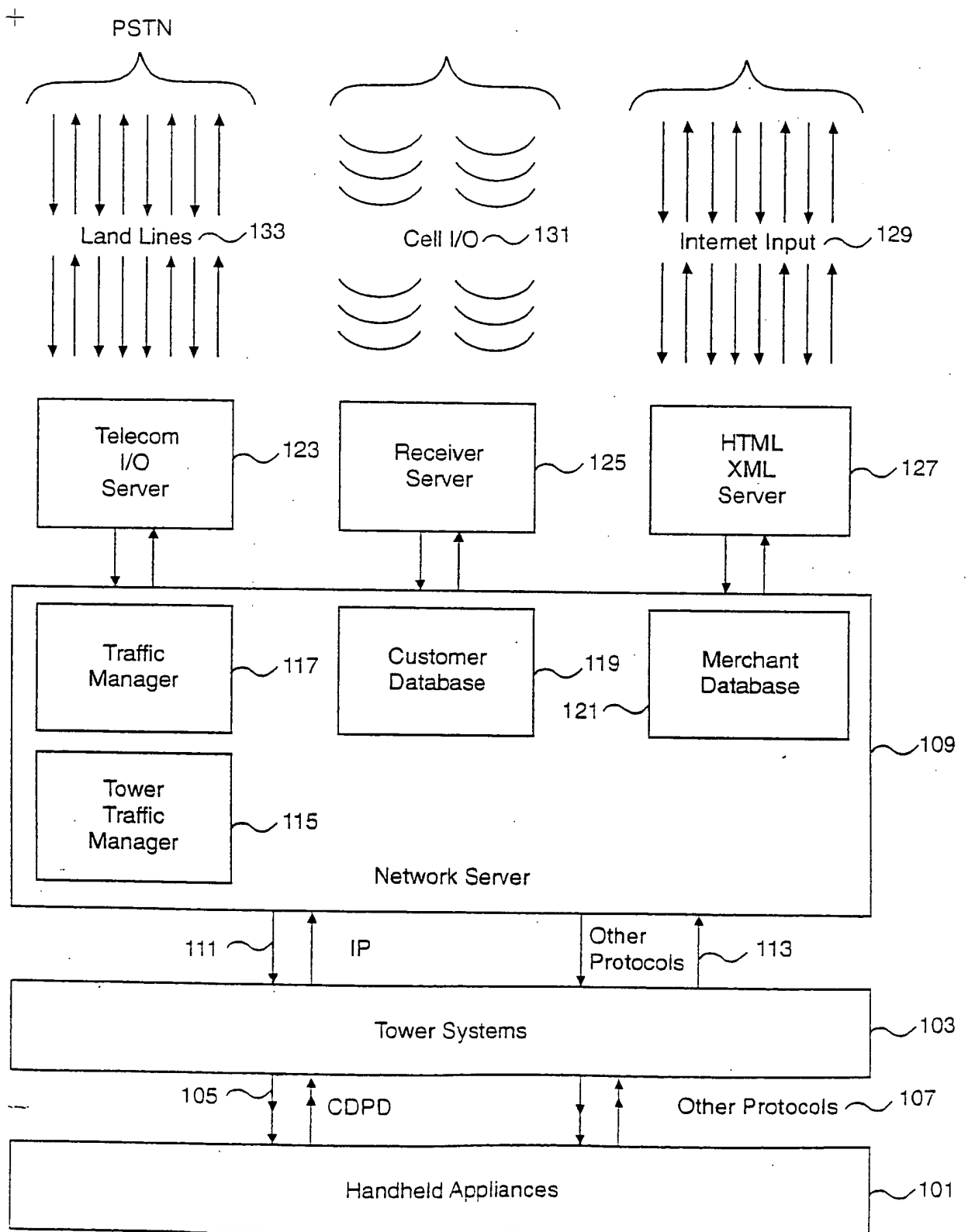


Figure 1B

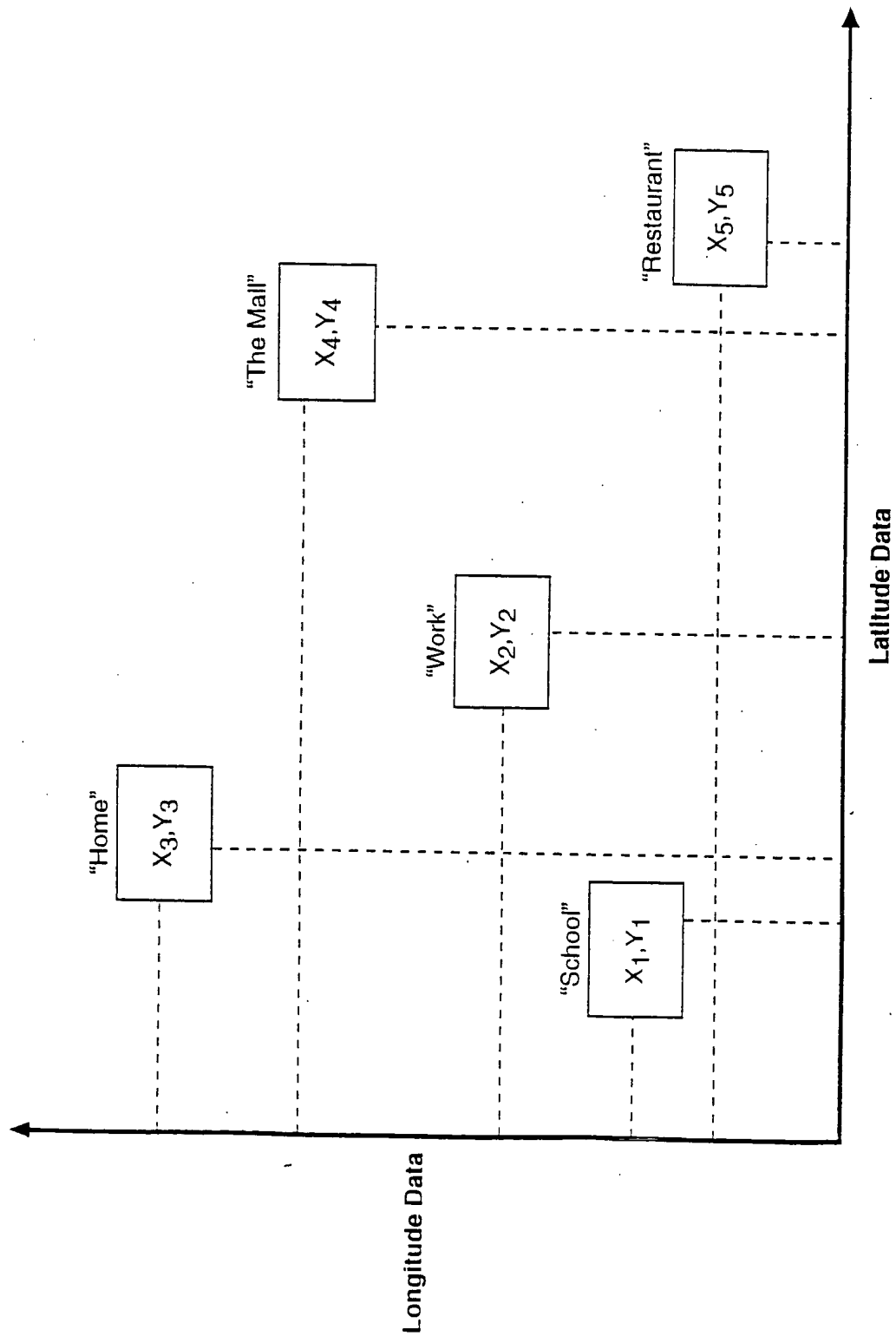


Figure 1C

2025-10-29 22:44:53

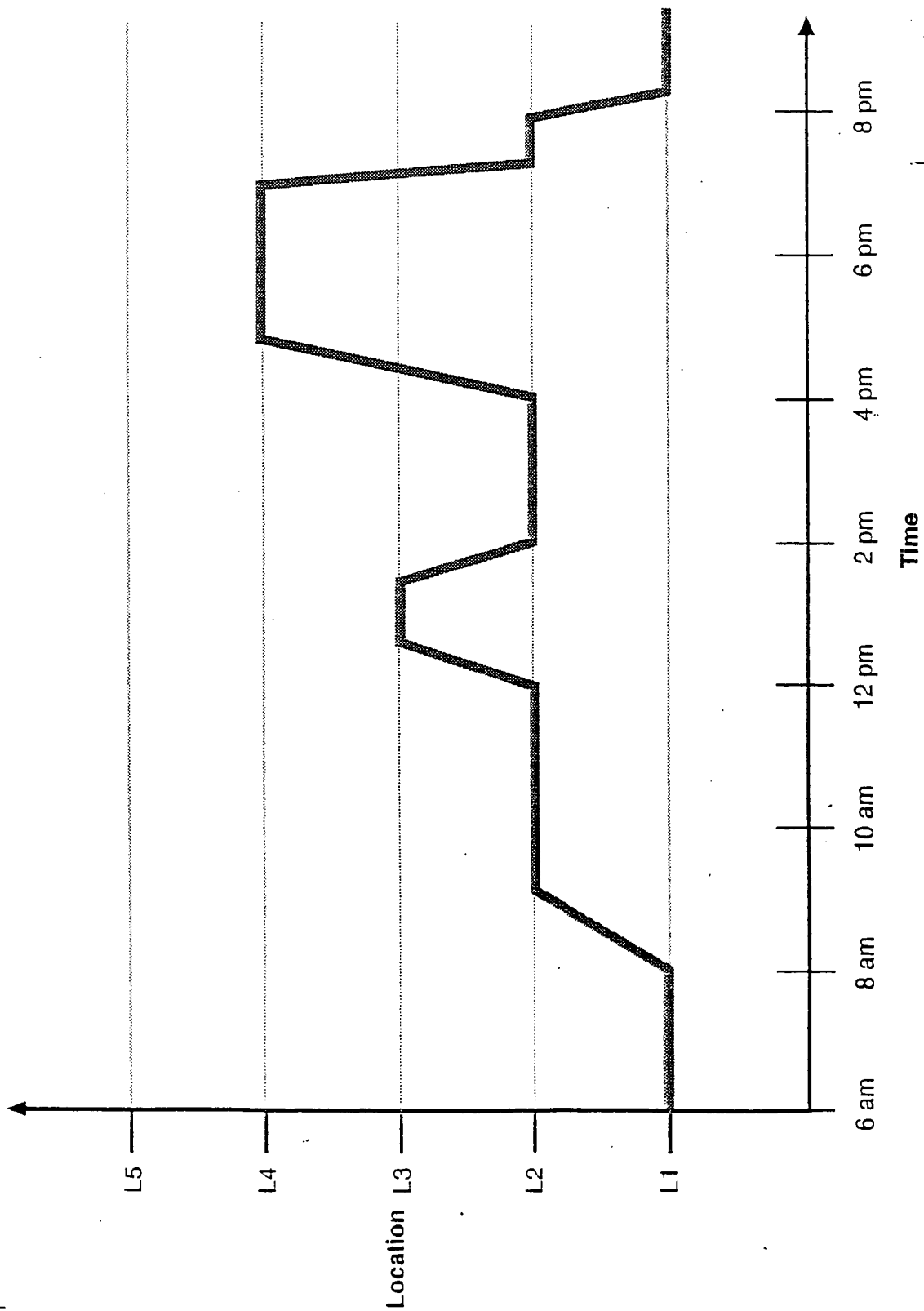


Figure 1D

151	Biographic Data	157	159	161
163	Name	Sue	High	Yes
165	Gender	Female	High	Yes
167	Age	13	Medium	Yes
169	Ethnic Background	Chinese-American	Medium	No
171	Demographic Data			
173	Culture	American	Low	No
175	Region	East Coast	High	Yes
177	Likely Family Income	High	Low	No
179	Preferences Data			
181	Action Movies	High Interest	High	No
	Hip-Hop Music	Low Interest	Low	No
	Clothing from The GAP	High Interest	High	Yes

Figure 1E

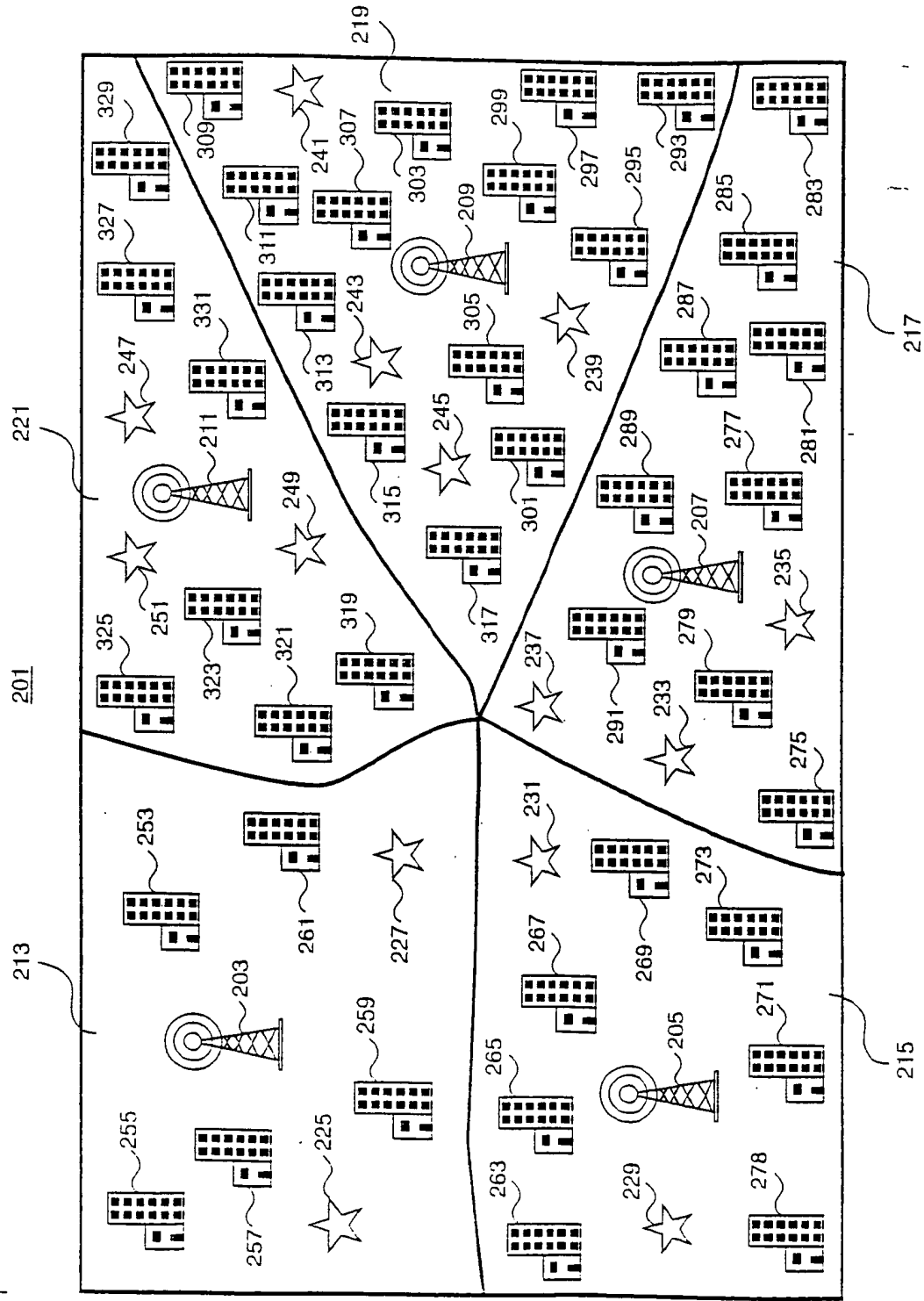


Figure 1F

203 213 221 225 253

Tower No.	Region	Adjoining Regions	Favorite Places	Network Affiliates
203	213	221	225 Riding Stables	253 Game Arcade
		215	227 Water Park	255 Video Store
				257 Taco Stand
				259 Book Store
				261 Riding Supply Store

Figure 1G (1 of 5)

205 215 213 217 221 229 231 233 263 265 267 269 271 273 278

Tower No.	Region	Adjoining Regions	Favorite Places	Network Affiliates
205	215	213	229 Aunt Jane's House	263 24-Hour Gym
		217	231 Linear Park	265 Ice Skating Rink
		221	233 Pottery Supply Store	267 Sporting Goods Superstore
				269 Promdress Shop
				271 Belgian Chocolate Store
				273 Pet Store
				278 Model Train Store

Figure 1G (2 of 5)

205 210 215 220 225 230 235 240 245 250

Tower No.	Region	Adjoining Regions	Favorite Places	Network Affiliates
207	217	219	235 Candy's House	275 Corn Maze
		221	237 Resale Boutique	277 Aquarium
		215		279 Museum
				281 I-MAX Theatre
				283 Movie Theatre
				285 Laser Tag Facility
				287 Pizza Place
				289 Zoo
				291 Public Library

Figure 1G (3 of 5)

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Tower No.	Region	Adjoining Regions	Favorite Places	Network Affiliates
209	219	217	239 Home	293 Mall #1
		221	241 School	295 Mall #2
			243 Work	297 Chinese Food
			245 Suzy's House	299 K-Mart
				301 Target
				303 Record Store
				305 Batting Cages
				307 Golf Driving Range
				309 Computer Superstore
				311 Boy's Club
				313 Church #1
				315 Restaurant #14
				317 Bicycle Shop

Figure 1G (4 of 5)

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Tower No.	Region	Adjoining Regions	Favorite Places	Network Affiliates
211	221	219	247 Uncle Clay's House	319 Metro Stop
		217	249 The Gap	321 Starbucks
		215	251 Grand Mother's House	323 Bowling Alley
		213		325 Antique Mall
				327 Tennis Facility
				329 Car Stereo Superstore

Figure 1G (5 of 5)

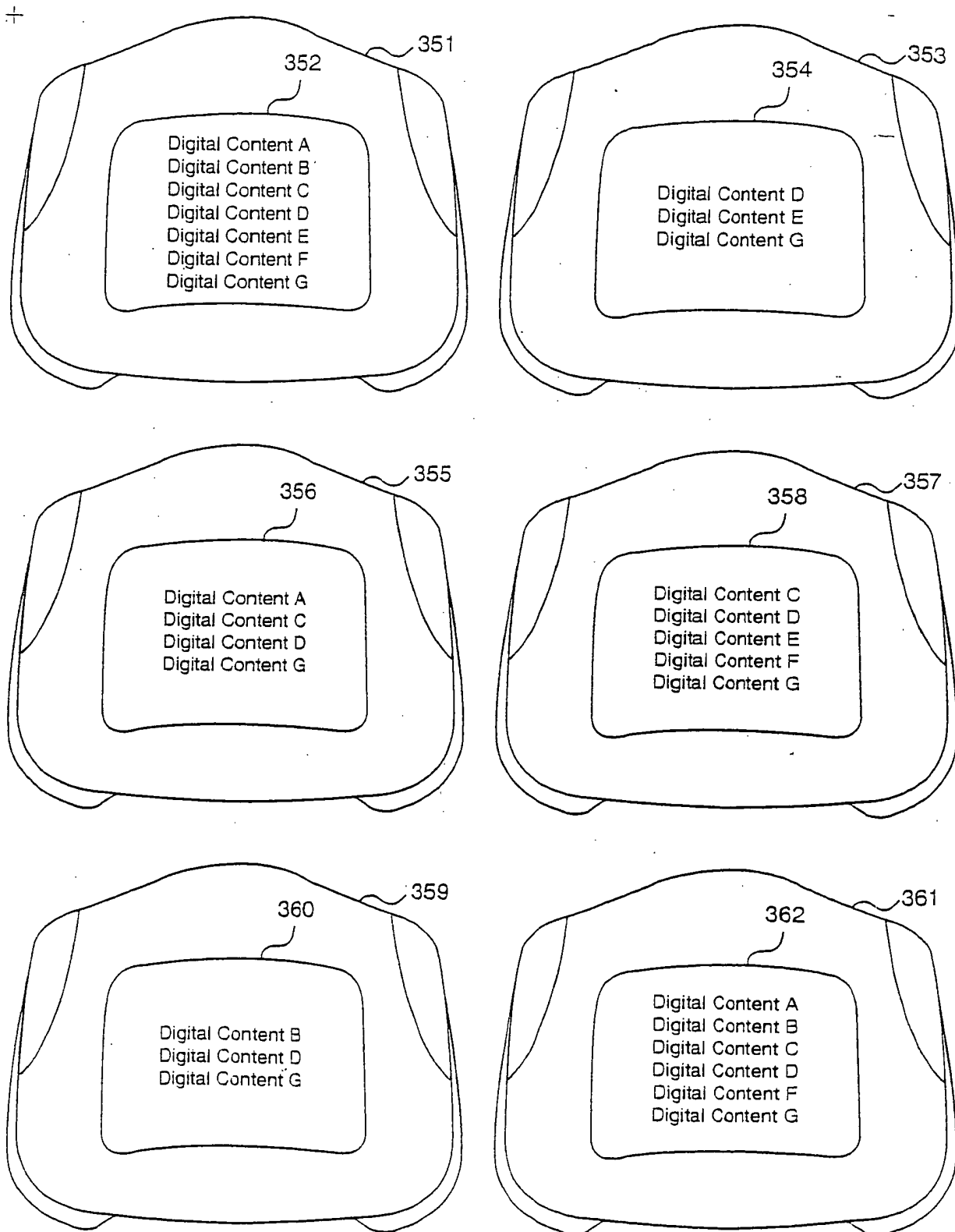



Figure 1H

365	367	369	371	373	375	377	379	381	383
Digital Content ID	Playable Digital Content	Source	Type	Subject	Energy Required to Play (Units)	Energy Earned for Playing (Units)	Preferred Location	Preferred Time	Period
Digital Content A	Movie	Merchant #12	Advertisement	X, Y	0	5	LATLONG1	After School	Incrementally Larger with Location
Digital Content B	Text and Alarm	Government Entity	Warning	Weather	0	0	Various Changing	Immediate	One Time Only
Digital Content C	Graphical Icon	Friend #1	Email Message		2	0	N/A	ASAP	7 Days
Digital Content D	Text Message	Acquaintance #3	Request for Chat		5	0	N/A	ASAP	3 Hours
Digital Content E	Executable Spreadsheet	Merchant #2	Survey	L, M	0	20	LATLONG2	Between 12/1 and 12/25	25 Days
Digital Content F	Text Message	School	Announcement	Sporting Event	1	0	N/A	Between 3:00 pm and 10:00 pm	Incrementally Larger for 7 Days
Digital Content G	Calendar File	Soccer Team	Schedule		3	0	N/A		User Initiated for 2 Days

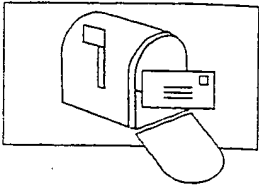
Figure 11

Digital Content A
Movie

Digital Content B

	Severe Storm

Digital Content C

A line drawing of a mailbox with a letter sticking out, set within a rectangular frame. The mailbox is a simple, rounded shape with a small rectangular slot on the front. A letter, depicted with horizontal lines and a small square in the top right corner, is partially inserted into the mailbox. The entire scene is enclosed in a rectangular border. Below this frame, there are several horizontal lines, suggesting a continuation of the page or a series of related images.

Digital Content D
<div>Want to Chat?</div>

Digital Content E

Digital Content F
<div>Announcement</div>

Digital Content G

Link
to
Calendar

397

Figure 1J

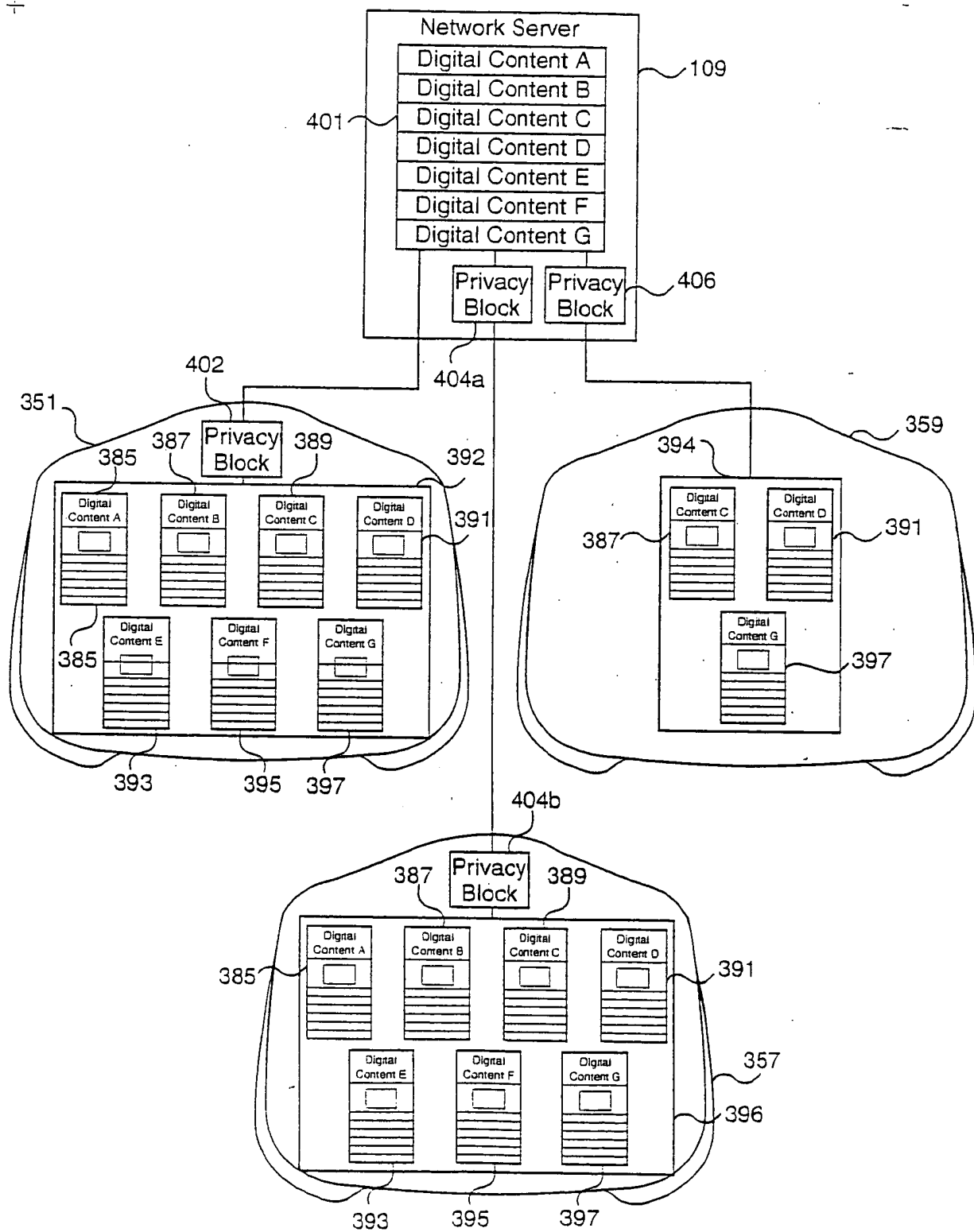


Figure 1K

407

Contextual User Profile													
User/ Appliance	Static Components			Dynamic Data Components									
	423	423b	423c	425a	425b	425c	425d	425e	425f	425g	425h		
	Biographic	Demographic	Cultural	Latitude Longitude	Time	Date	Available Energy	Food Pref.	Entertainment Preferences	Relationship Preferences	Privacy Block		
409	B1	DM3	C1	LATLONG1	4:00 pm	12/5	130	F1	E1	R3	P1		
411	B3	DM2	C2	LATLONG2	4:30 pm	12/5	43	F2	E3	R2	P2		
413	B2	DM1	C3	LATLONG3	5:00 pm	12/5	62	F3	E2	R1	P3		
415	B1	DM2	C1	LATLONG4	4:00 pm	12/5	227	F3	E1	R1	P4		
417	B3	DM3	C2	LATLONG5	4:30 pm	12/5	39	F2	E3	R2	P5		
419	B1	DM3	C3	LATLONG6	5:00 pm	12/5	200	F1	E2	R3	P6		
421													
423				427a				427b				425	

Figure 1L

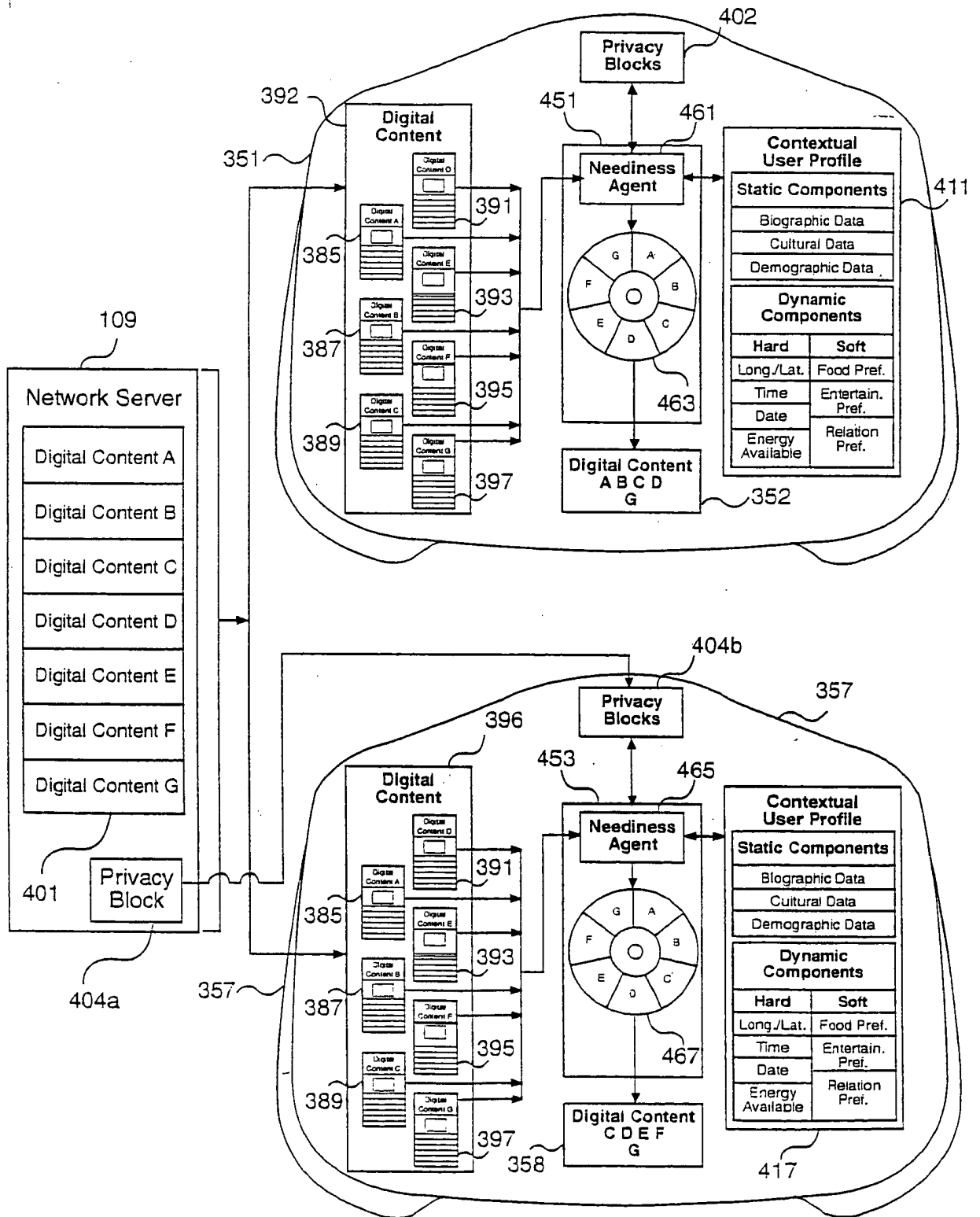


Figure 1M

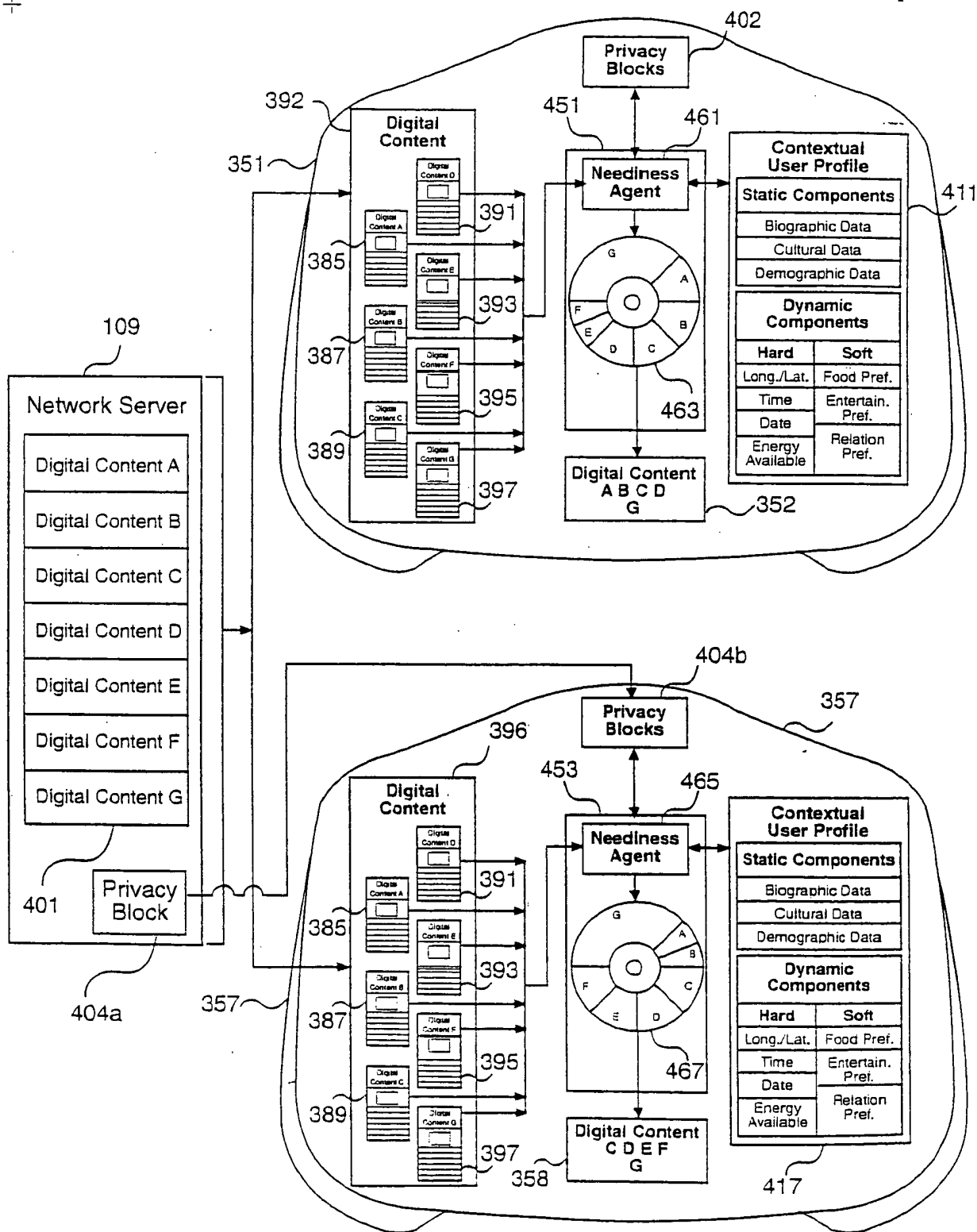


Figure 1N

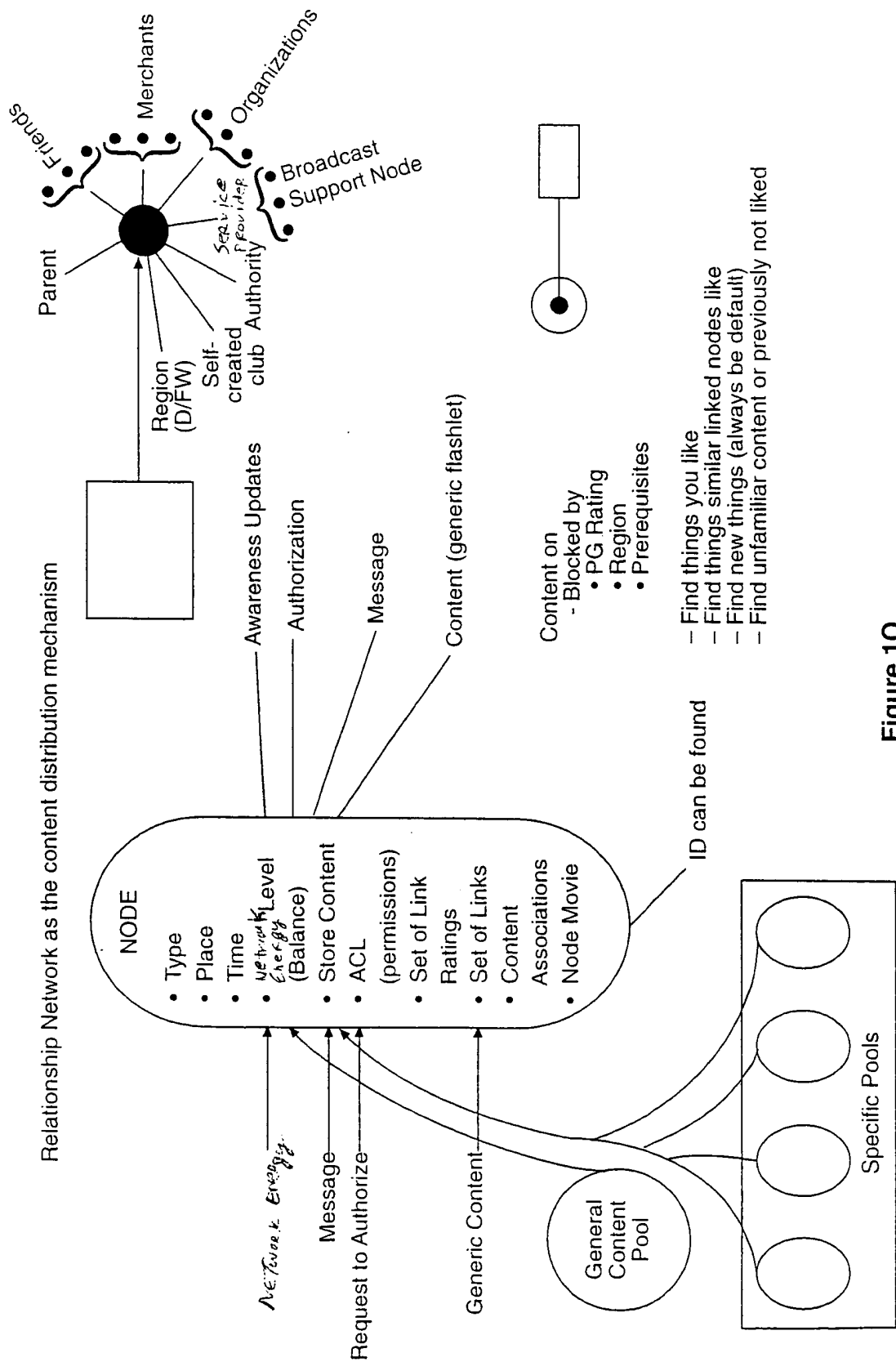


Figure 10

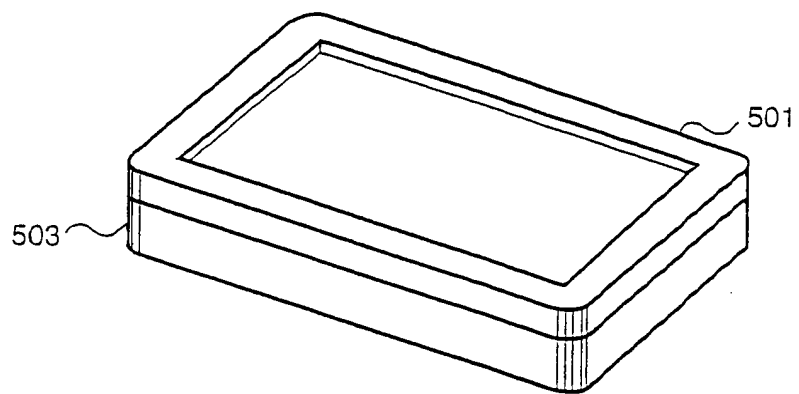


Figure 2A

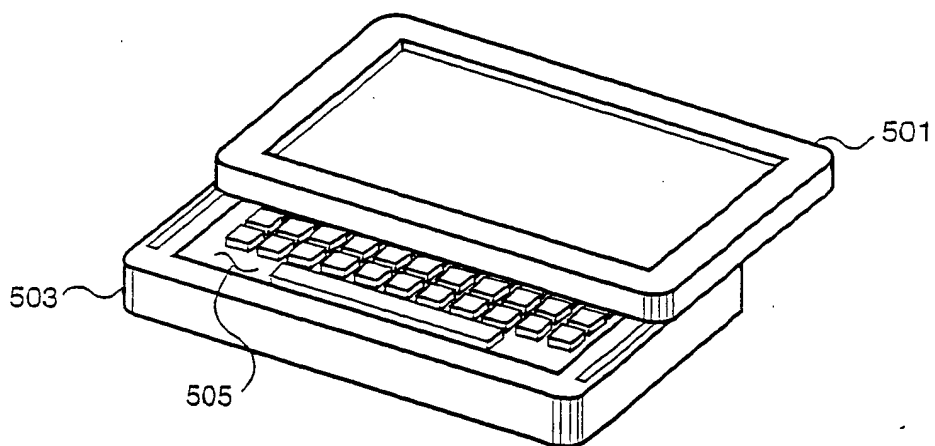


Figure 2B

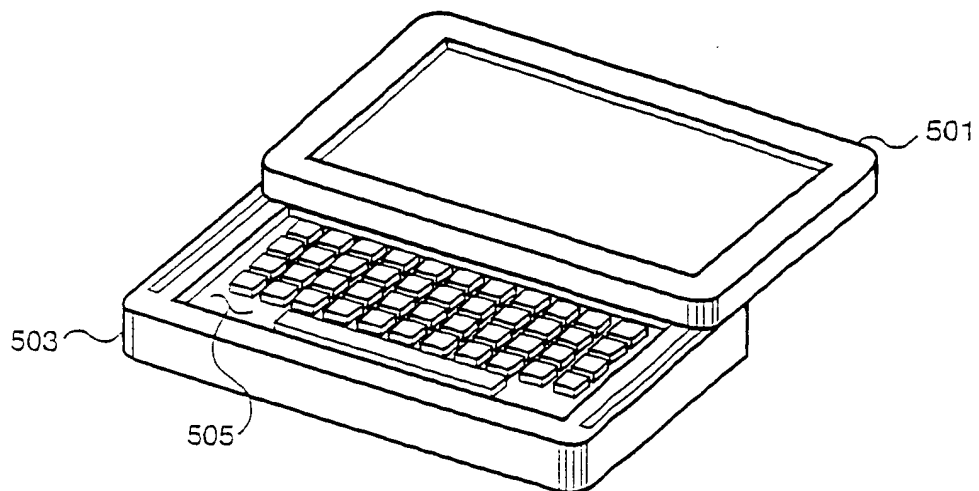


Figure 2C

2025-10-20 10:00:00

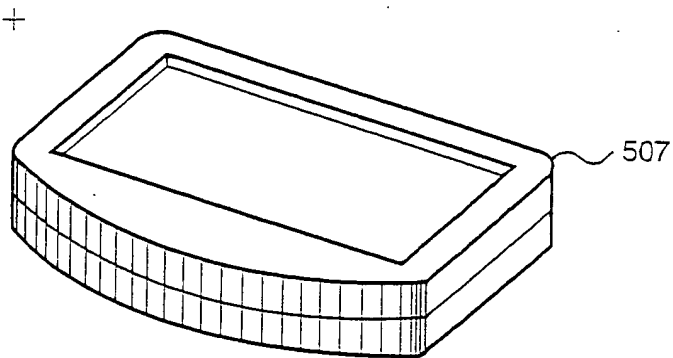


Figure 2D

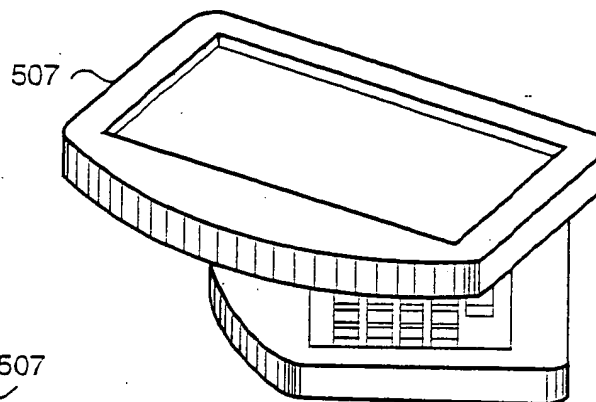


Figure 2E

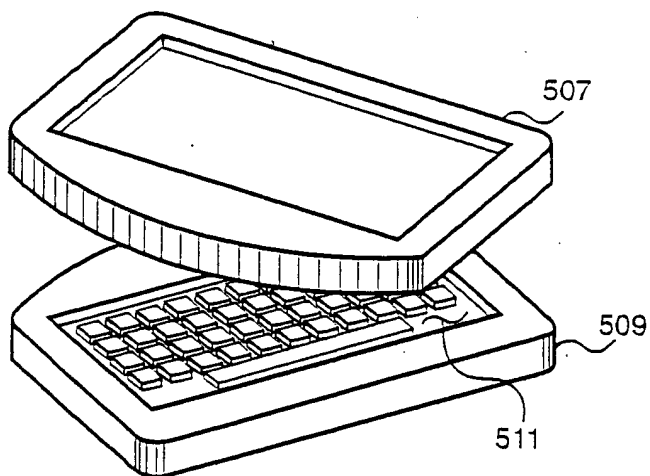


Figure 2F

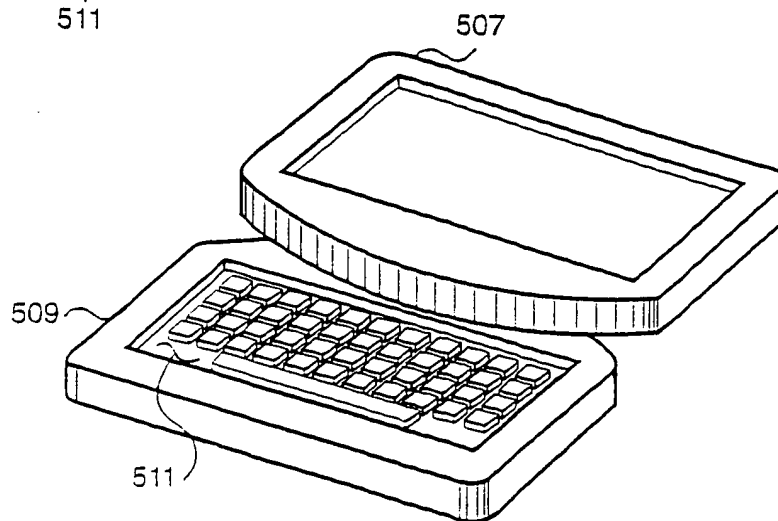


Figure 2G

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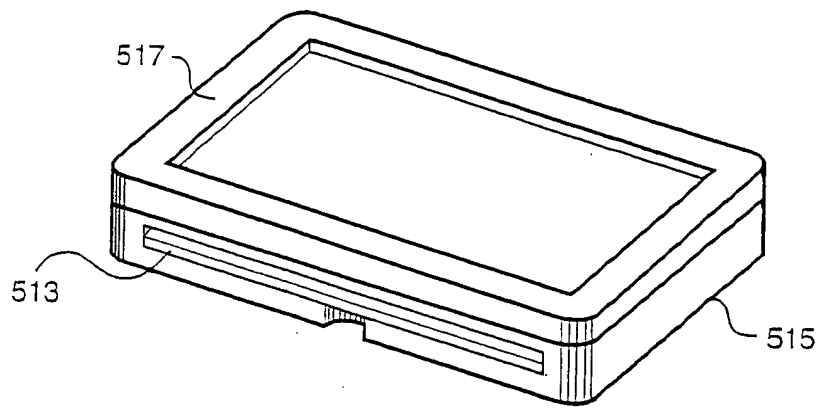


Figure 2H

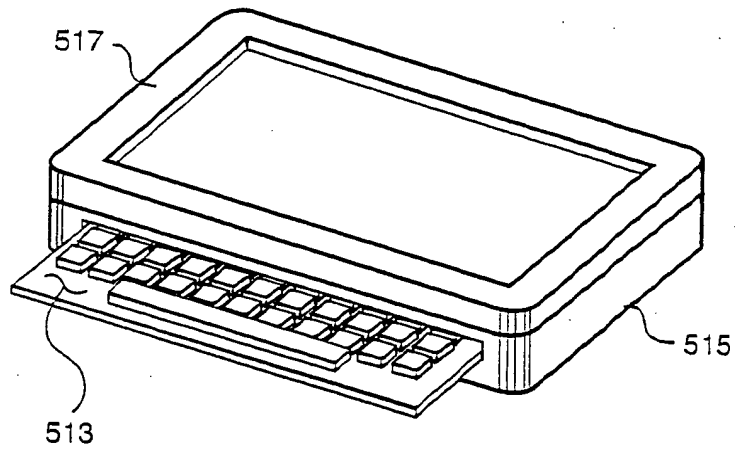


Figure 2I

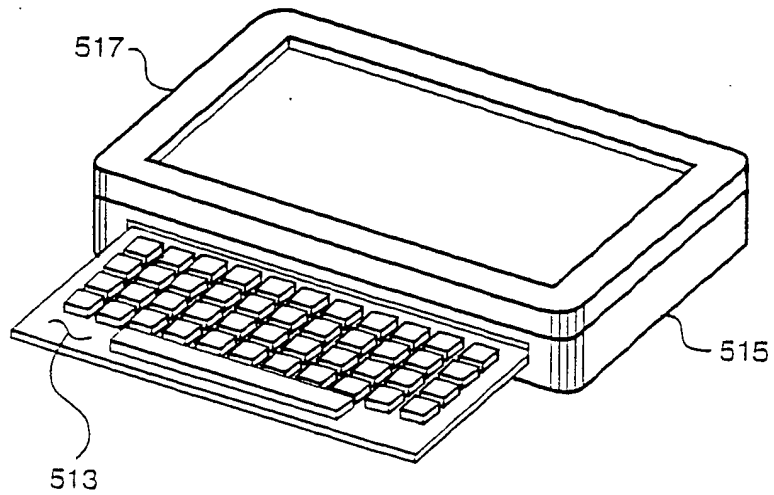


Figure 2J

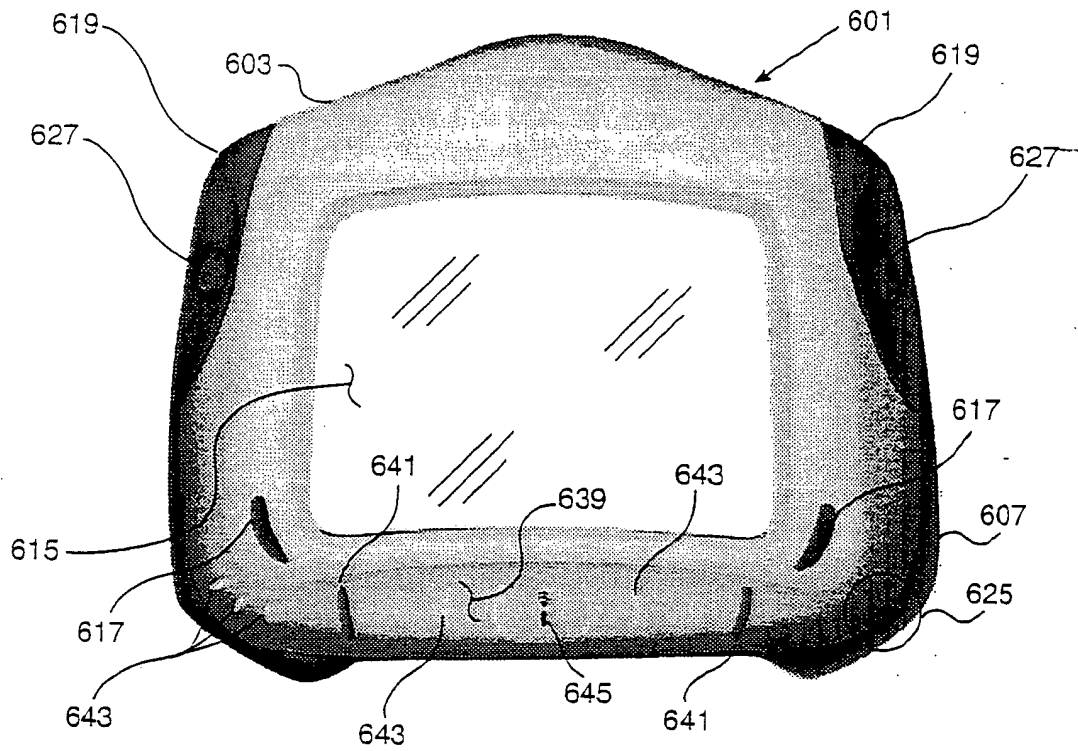


Figure 2K

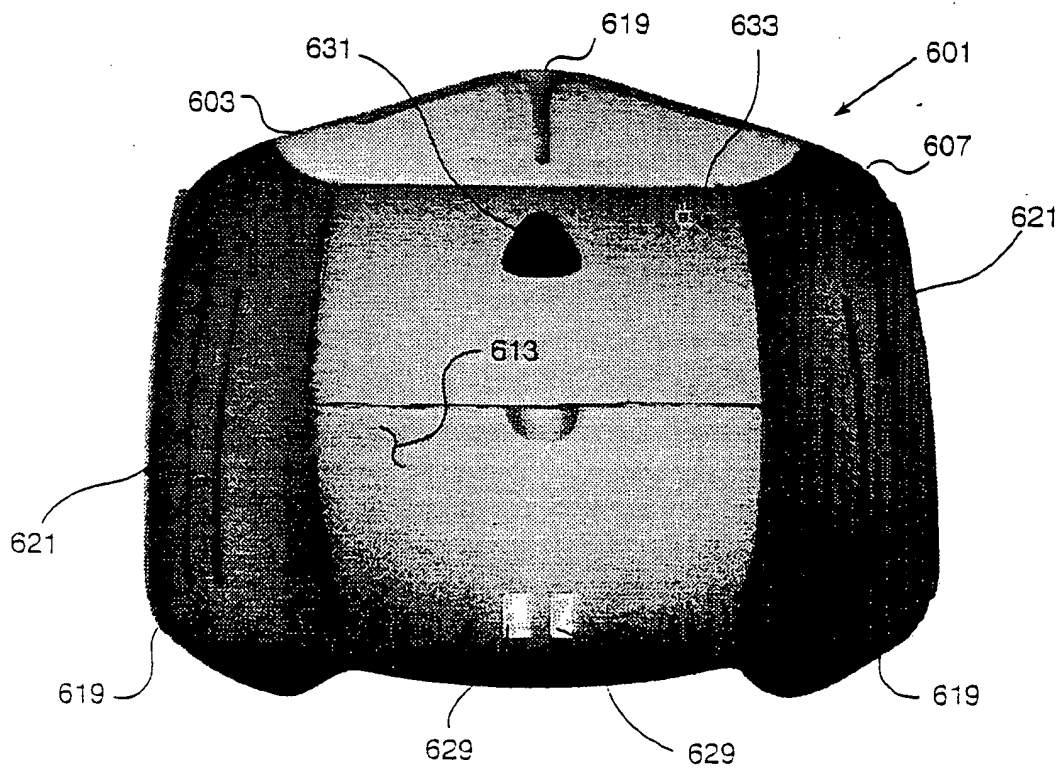


Figure 2L

from 1999 until 2001, the number of cases of acute myocardial infarction (AMI) in the United States increased by 10% (1).

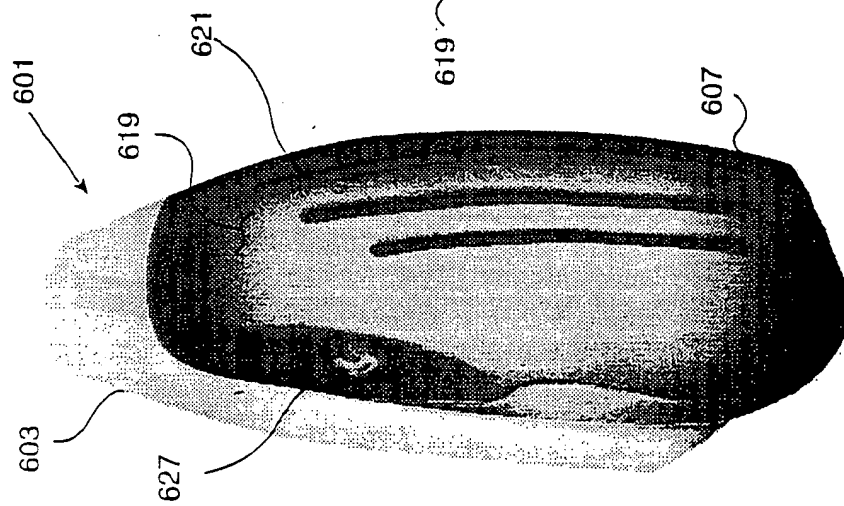


Figure 2M

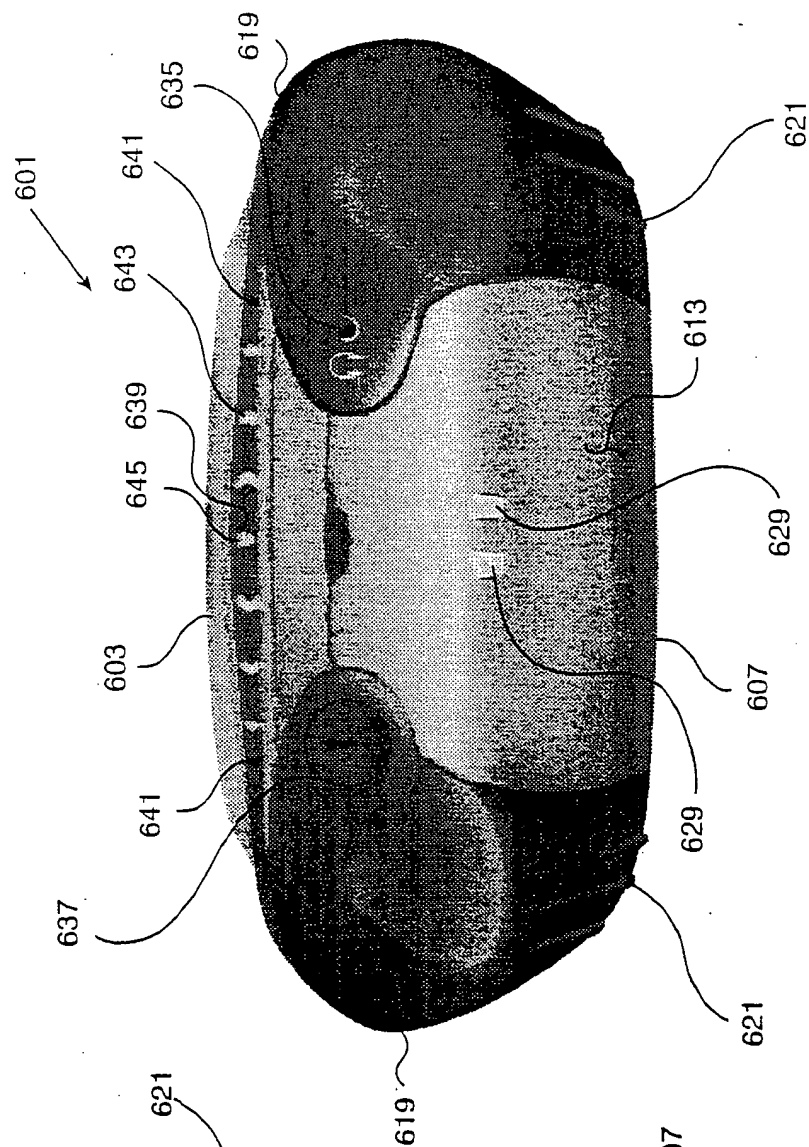


Figure 2N

200303044650

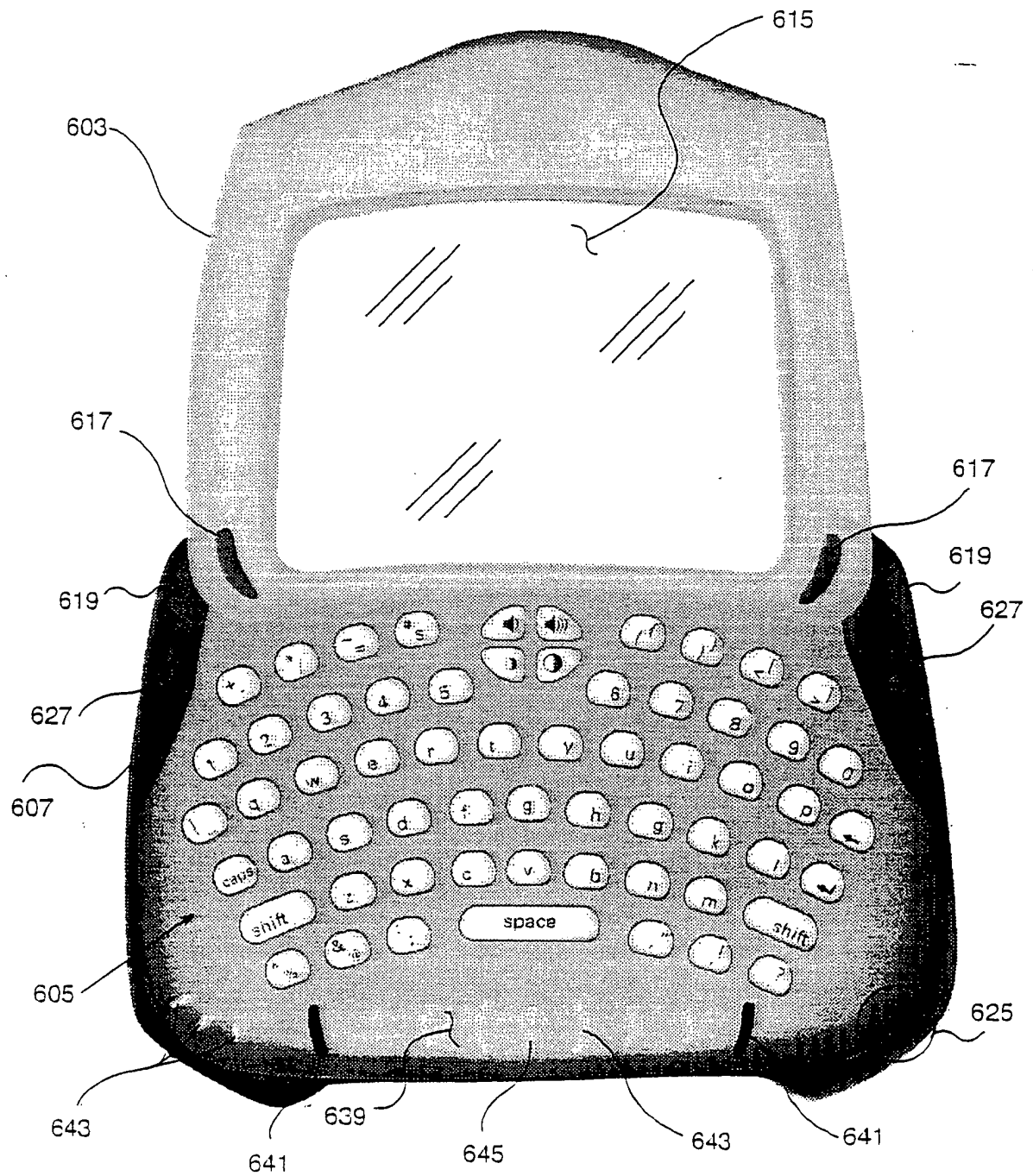


Figure 20

20251012044660

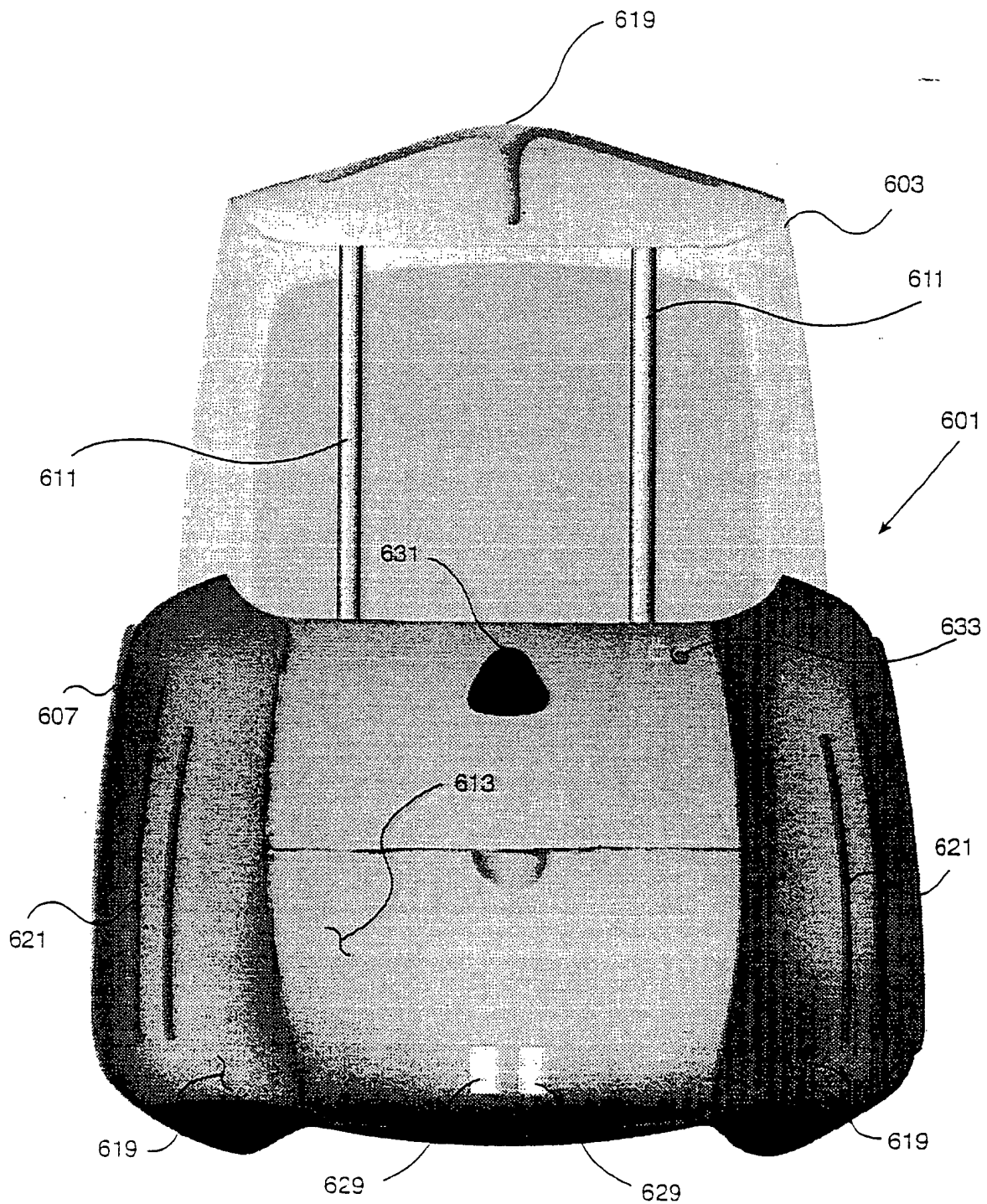


Figure 2P

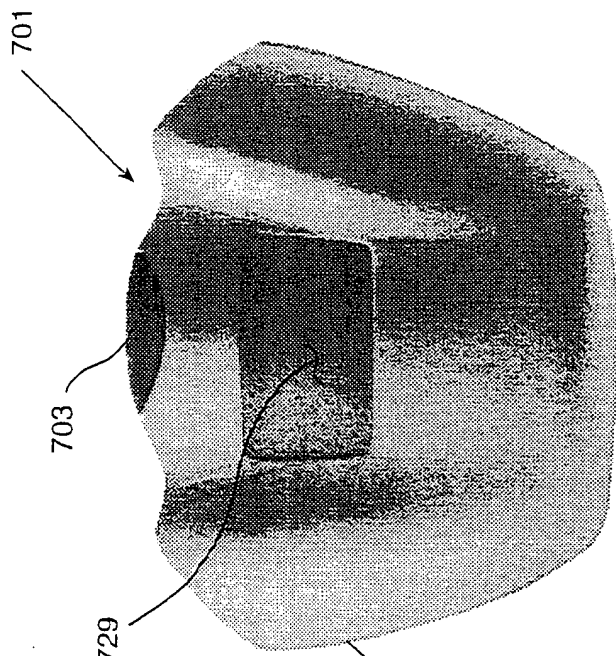


Figure 2R

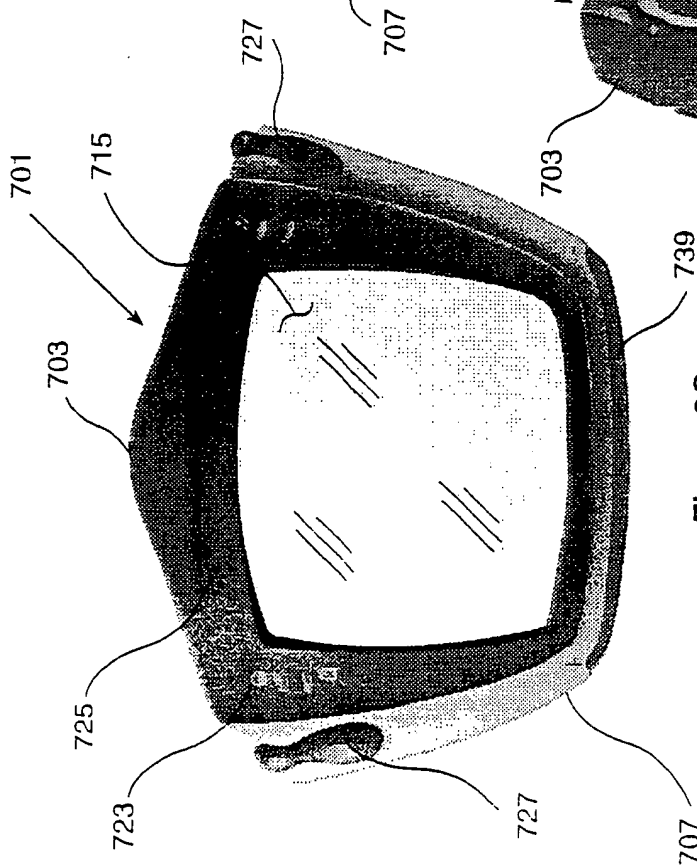


Figure 2Q

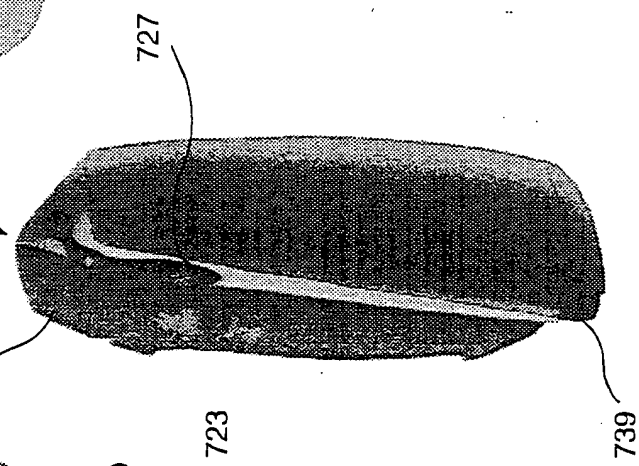


Figure 2S

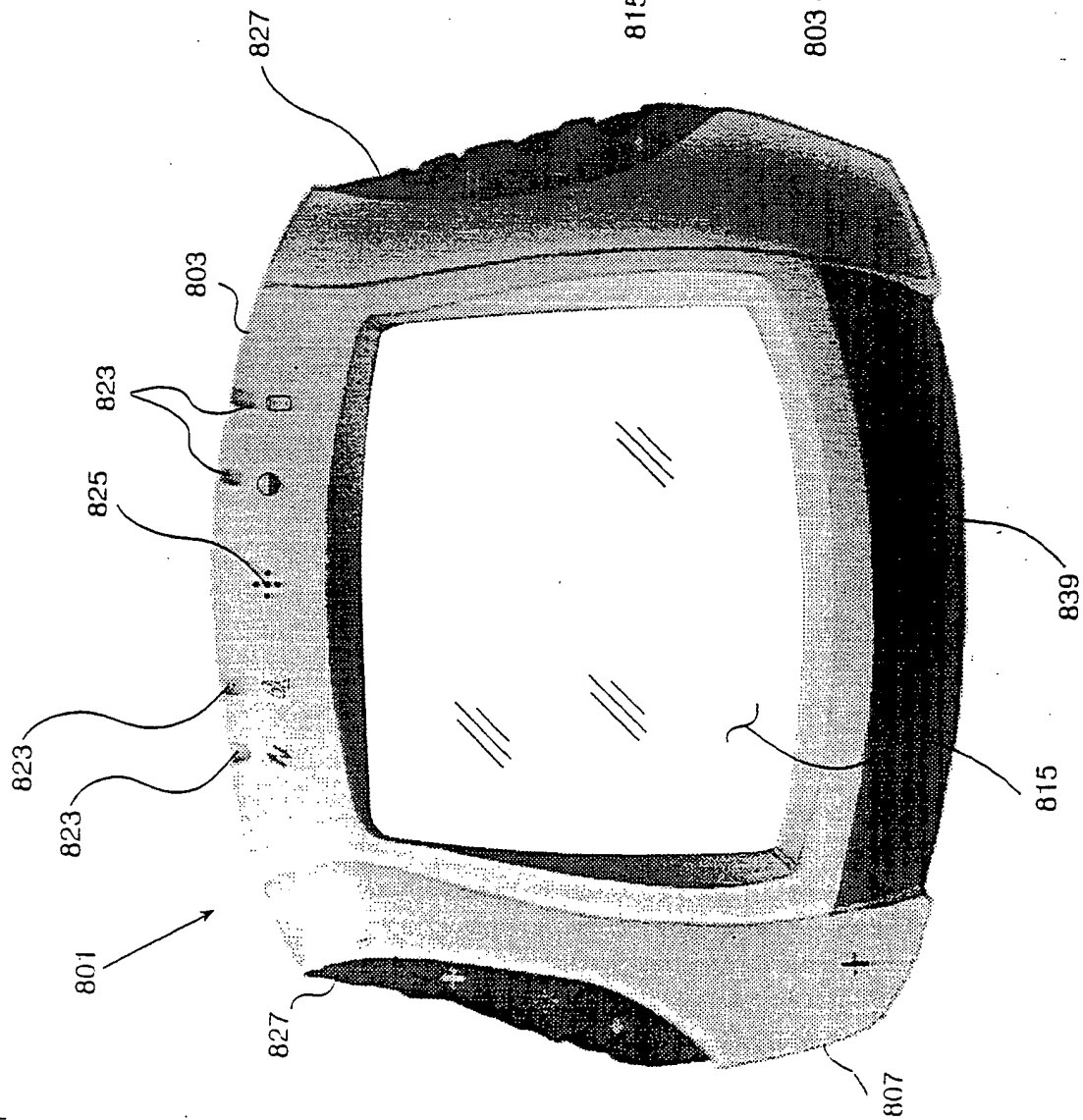


Figure 2T

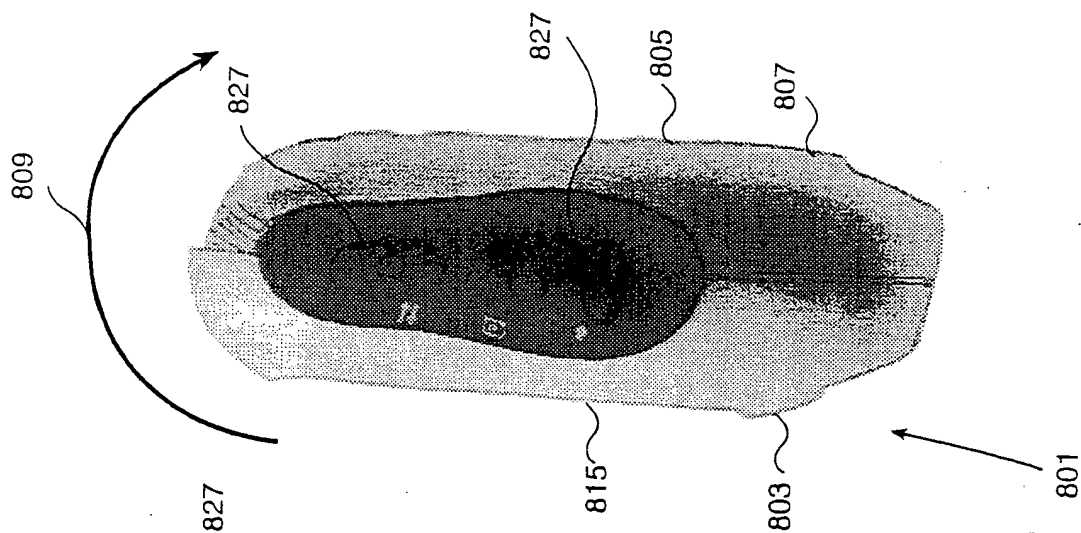


Figure 2U

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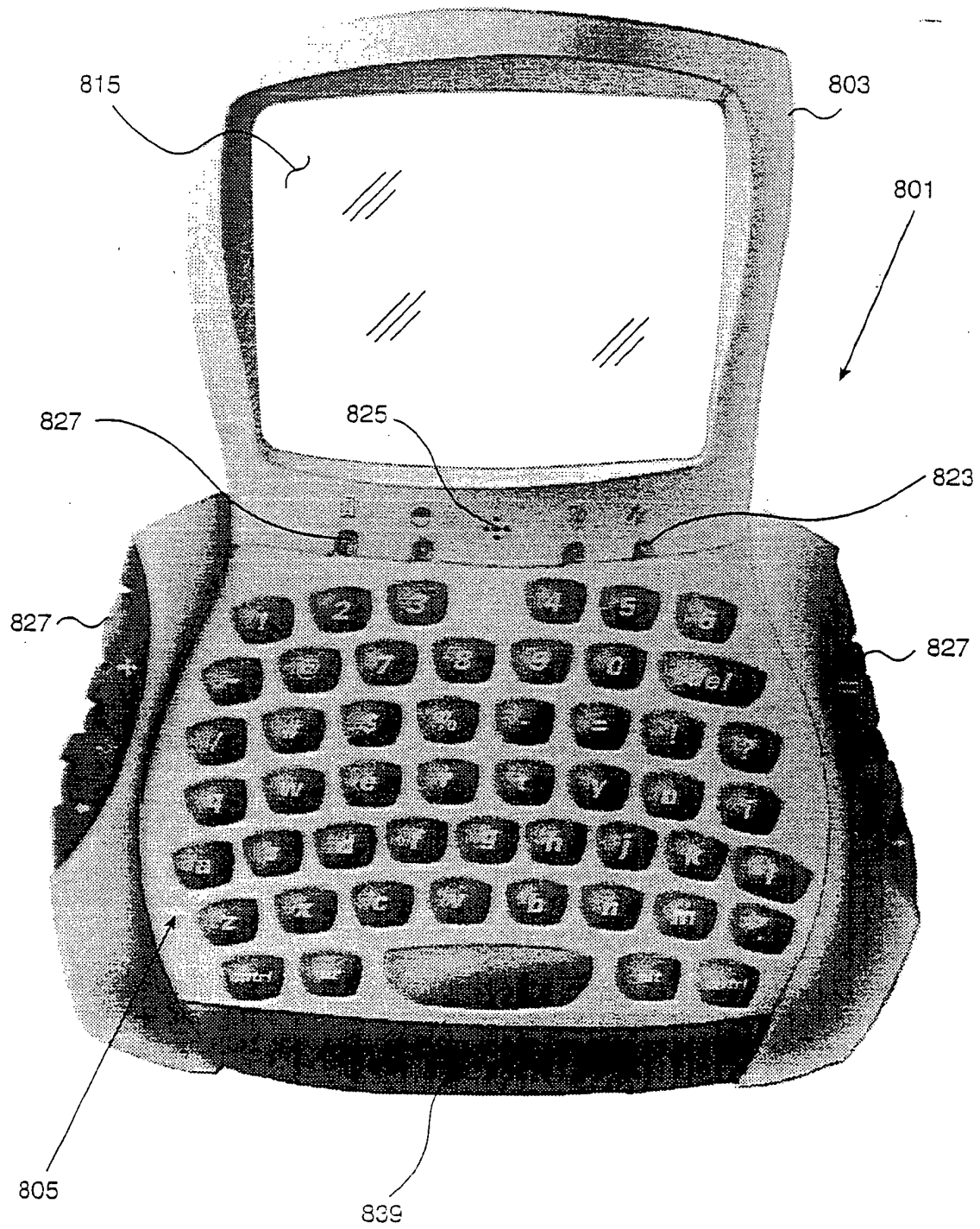


Figure 2V

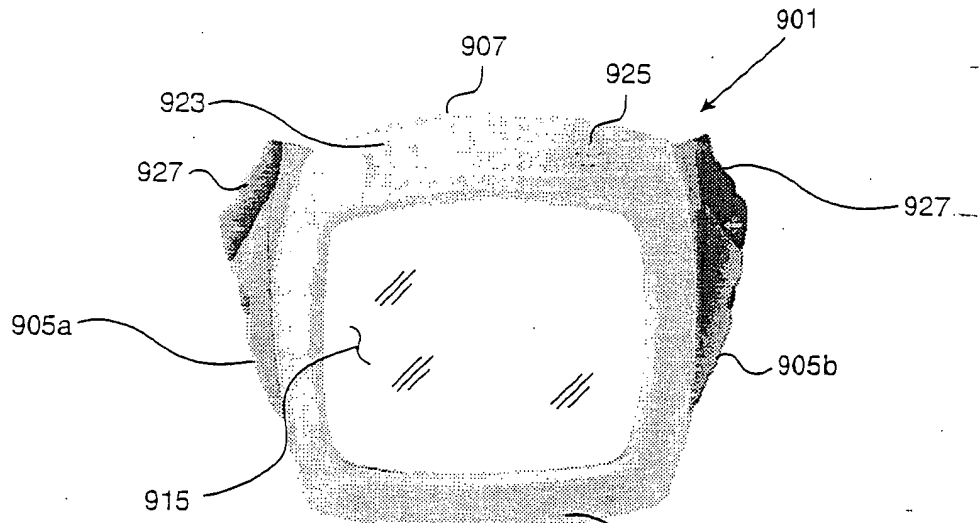


Figure 2W

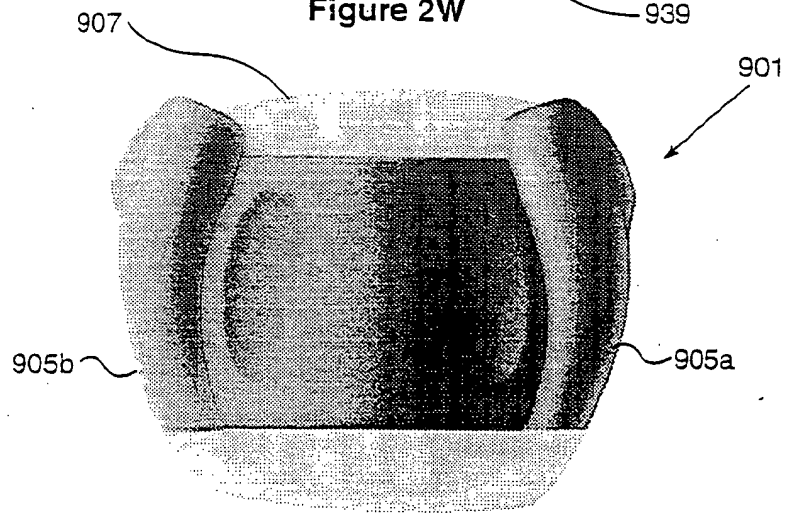


Figure 2X

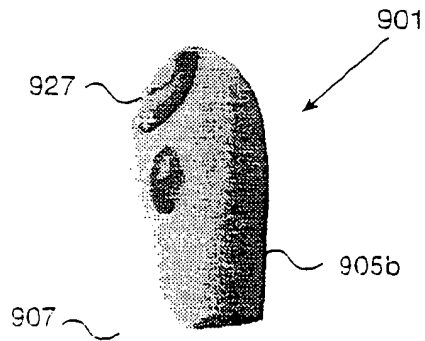


Figure 2Y

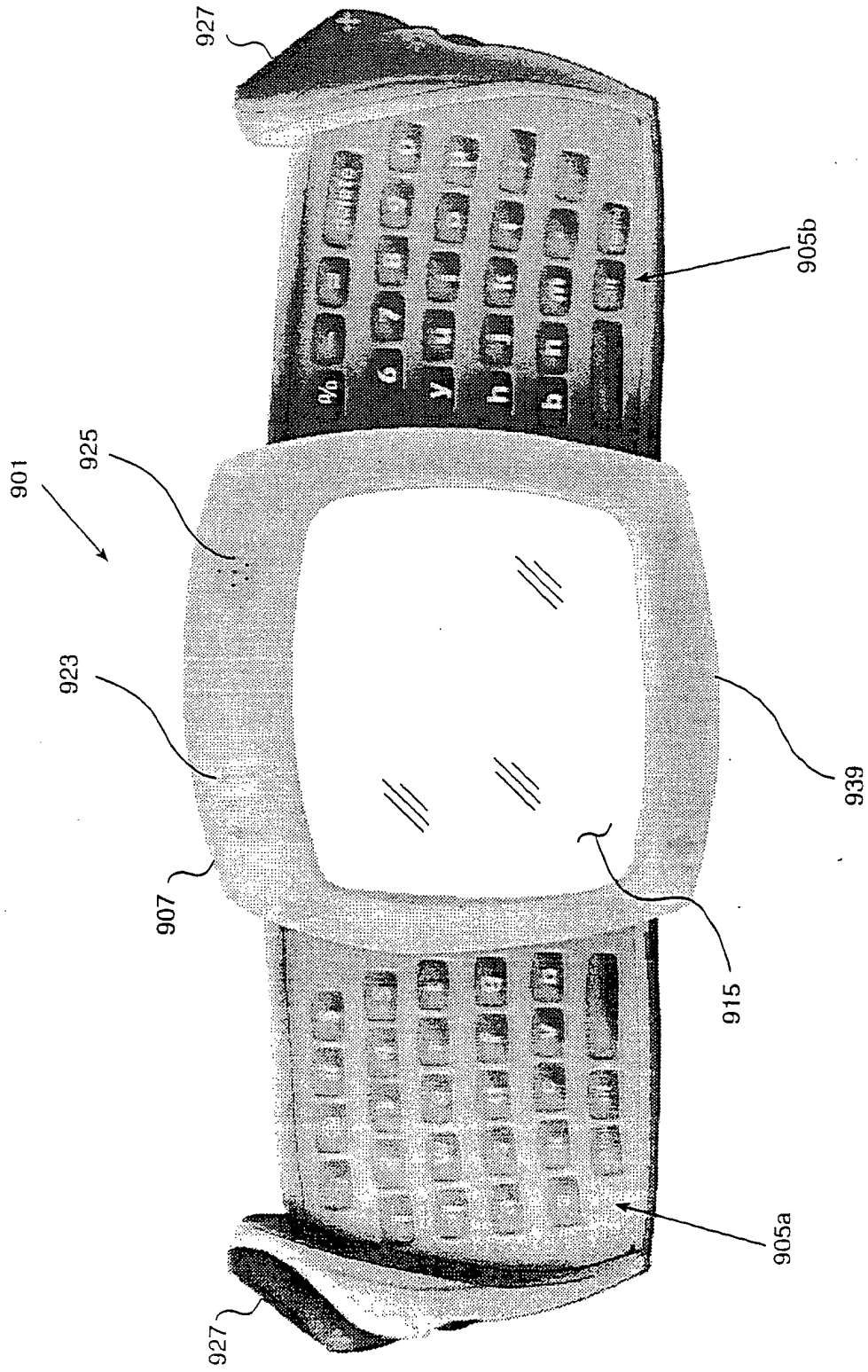


Figure 2Z

Figure 1 is a block diagram of a mobile device architecture. The diagram shows a layered architecture. At the top, various hardware components are connected to the Operating System (1500). These include a Screen (1537) with a Graphics Controller (1551) and Video Device Driver (1559); a Thumbboard (1527) with a Thumbboard Controller (1553) and Thumbboard Device Driver (1565); an Analog Responder (1528) with an Analog Responder Controller (1554) and Analog Responder Device Driver (1564); a GPS (1507) with a GPS Stack (1555) and GPS Communication Device Driver (1569); and a CDPD Modem (1509) with a TCP/IP Stack (1557) and CDPD Communication Device Driver (1573). Each hardware component is connected to the Operating System via an API. The Operating System (1500) is connected to a File System (1575), which is connected to a Flash Rendering Engine (1576). The Flash Rendering Engine is connected to an Application Scheduling / User Input Control (1577) block. This block is connected to three Application blocks (1581, 1583, 1585) and a Scripting API (1585). The Scripting API is connected to two Custom Application blocks (1587, 1589).

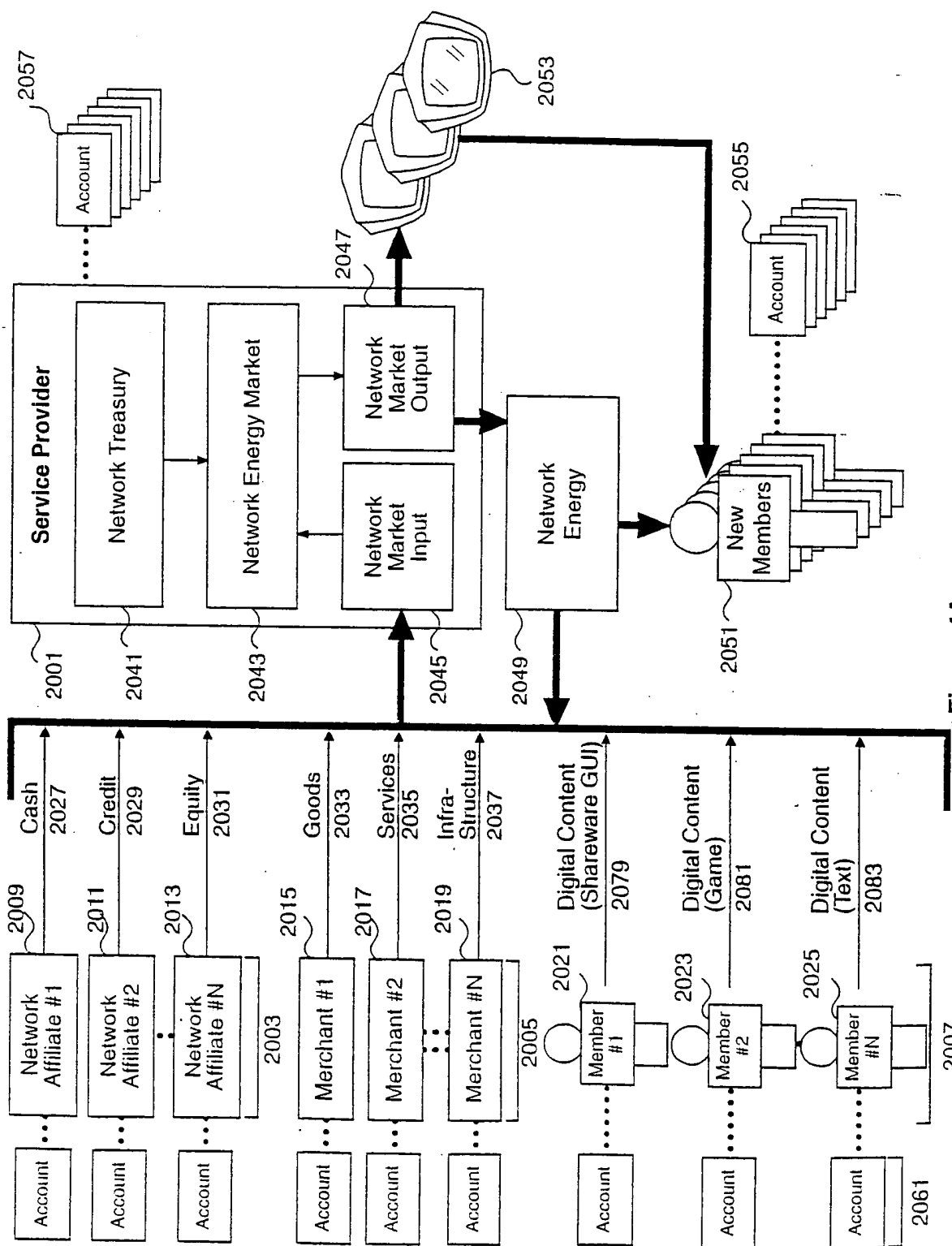


Figure 4A

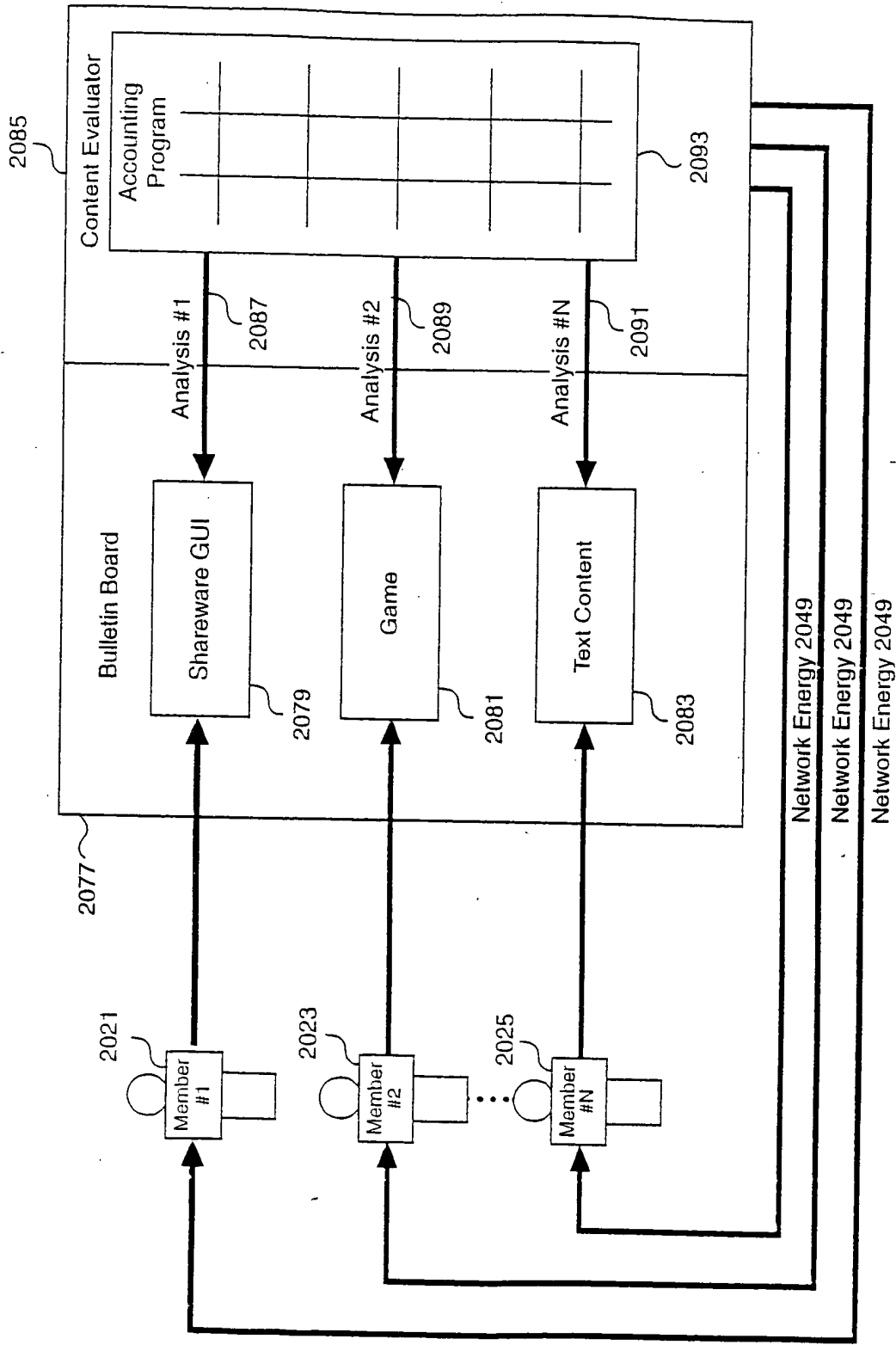


Figure 4B

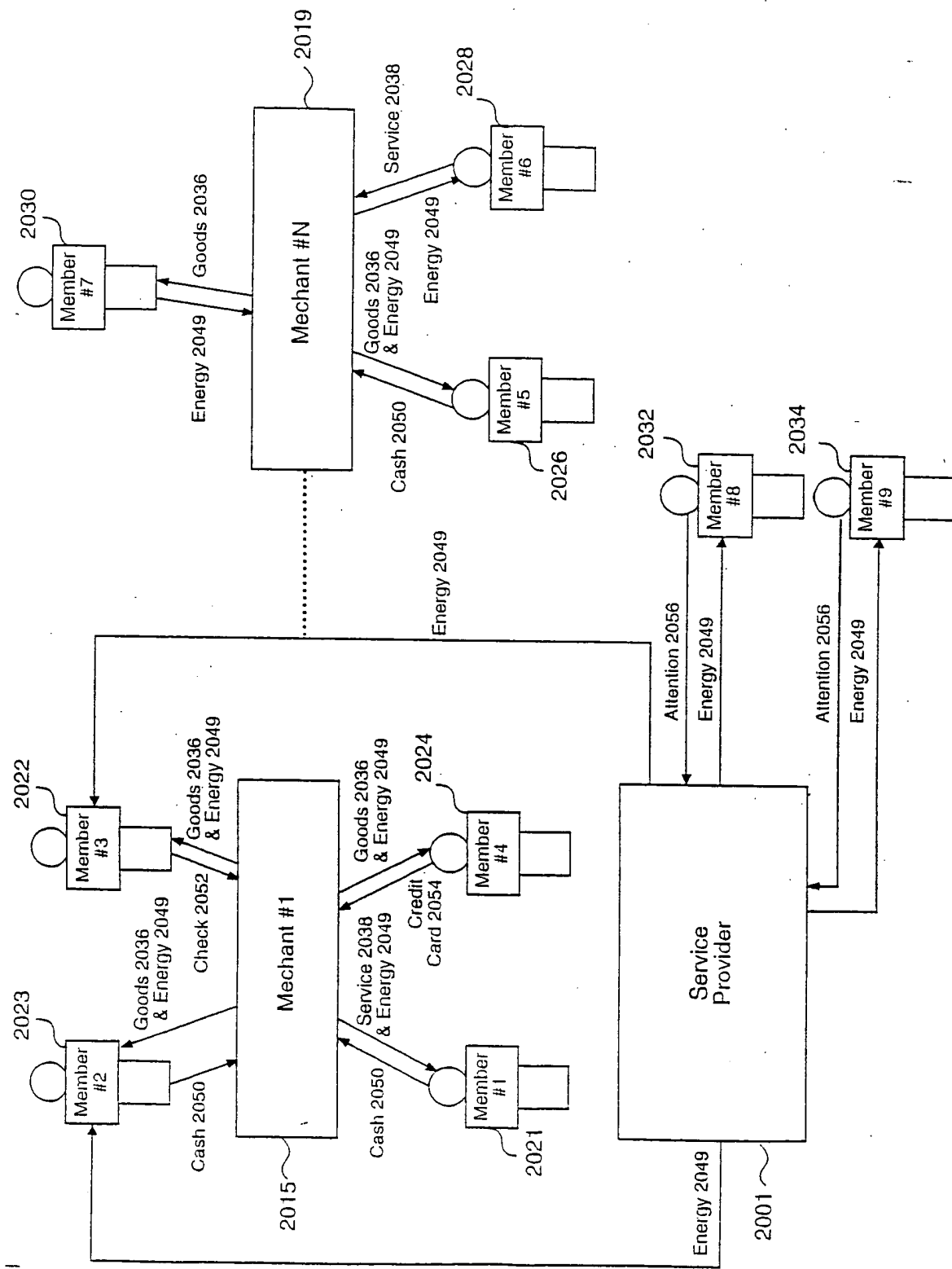


Figure 4C

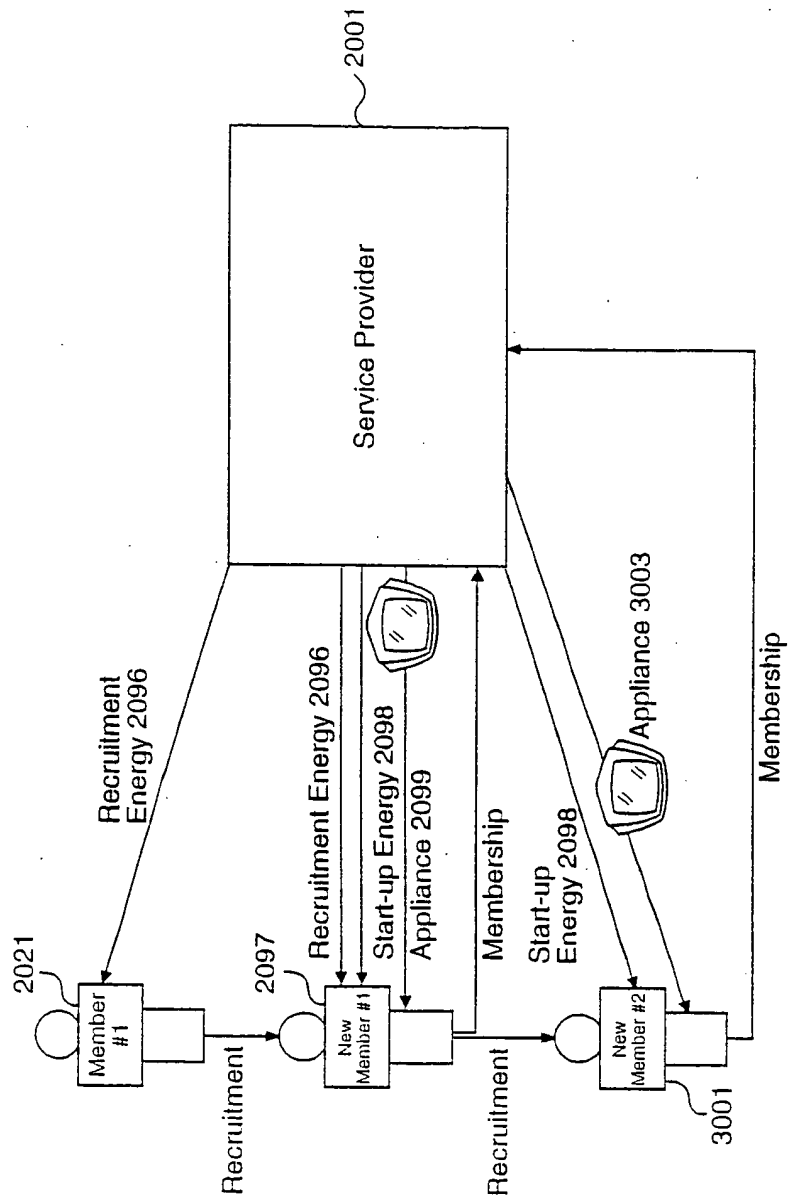


Figure 4D

Type of Input Element	Non-Biasing	Starting Position	Needs On-Screen Indicator	Continuous
One-Dimensional Touch Pad	Yes	No	No	Yes
Elongated Button	Yes	No	No	Yes
Touch Screen with Graphical Slider	Yes	No	Yes	Yes
Jog Wheel	No	Yes	Yes	Yes
Scroll Wheel	No	No	Yes	Yes
Thumb Wheel	No	No	Yes	Yes
Linear Sliding Knob	No	Yes	No	Yes
Touch Screen with Graphical Radio Buttons	Yes	No	Yes	No
Dedicated Buttons on Keyboard	Yes	No	No	No
Two-Dimensional Touch Pad	Yes	No	No	Yes

Figure 5A

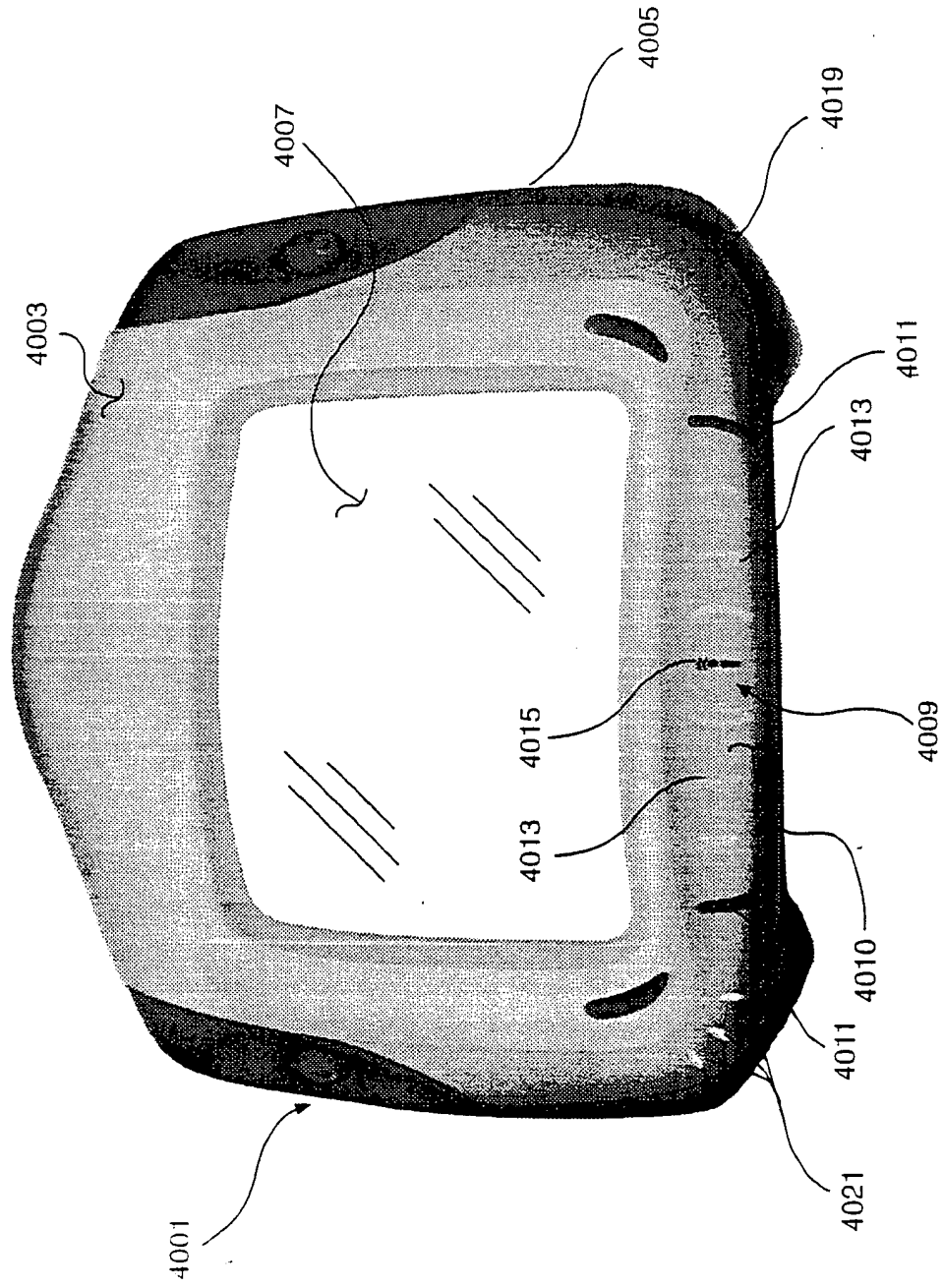


Figure 6A

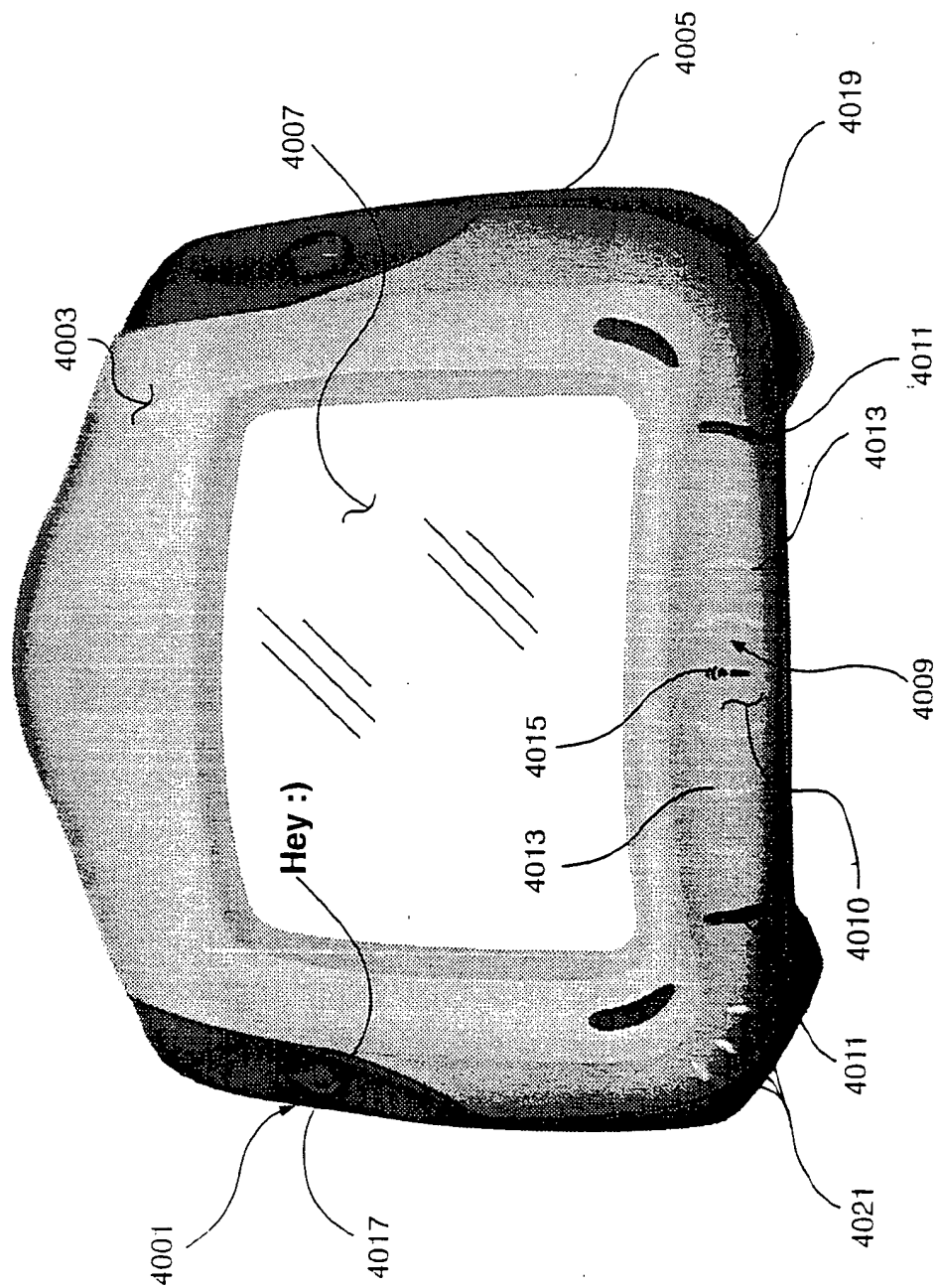
[illegible]

Figure 6B

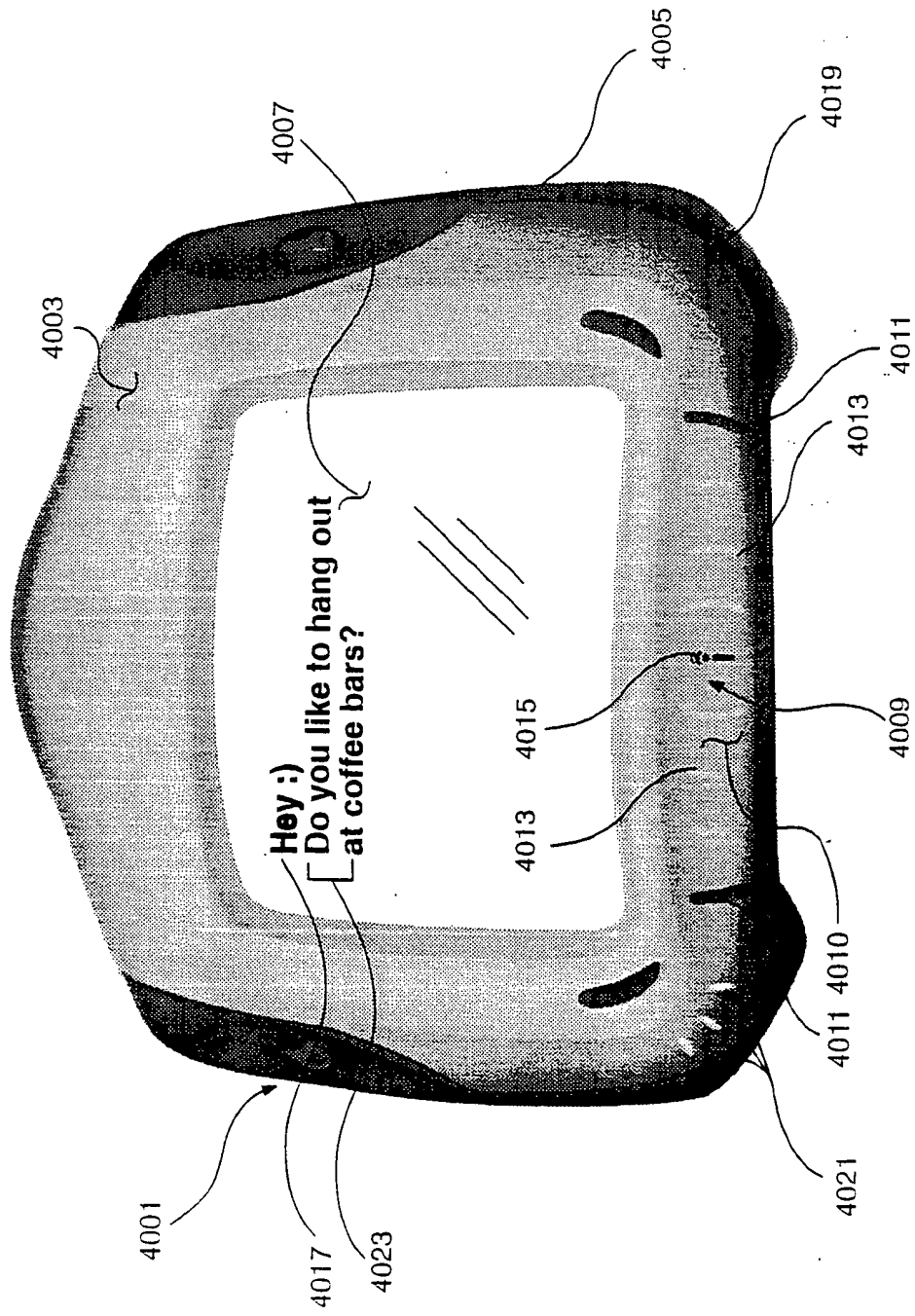


Figure 6C

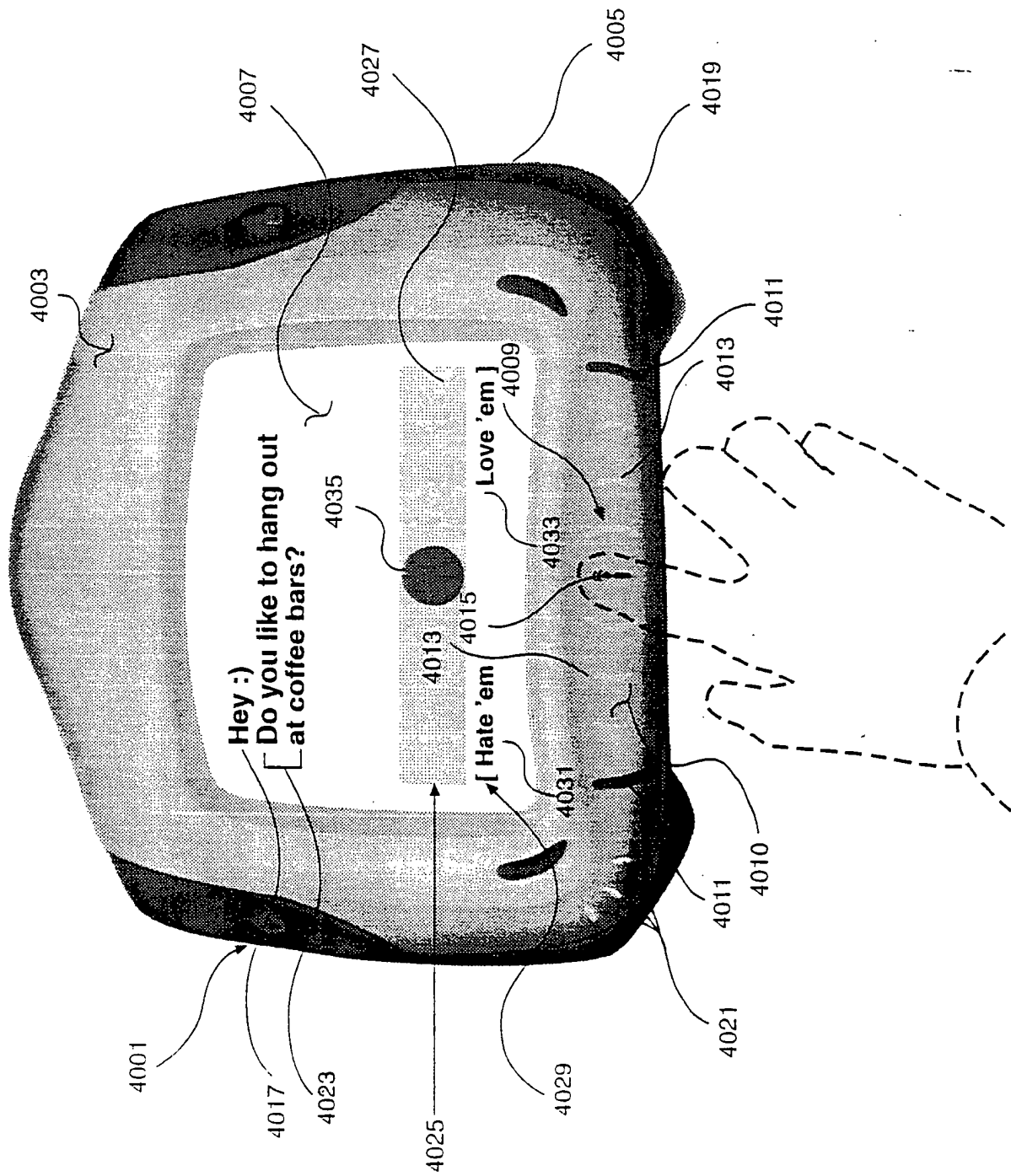


Figure 6D

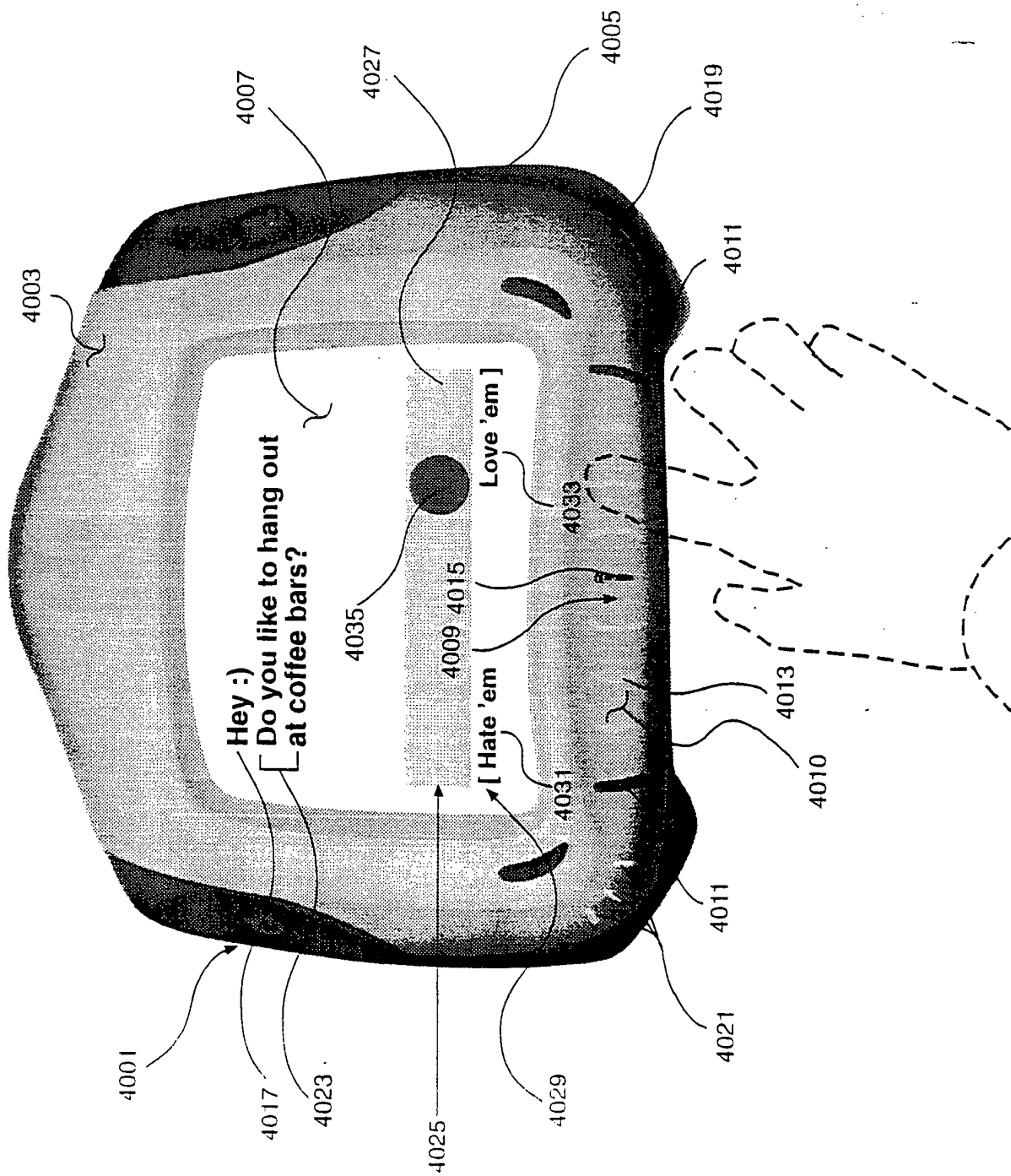


Figure 6E

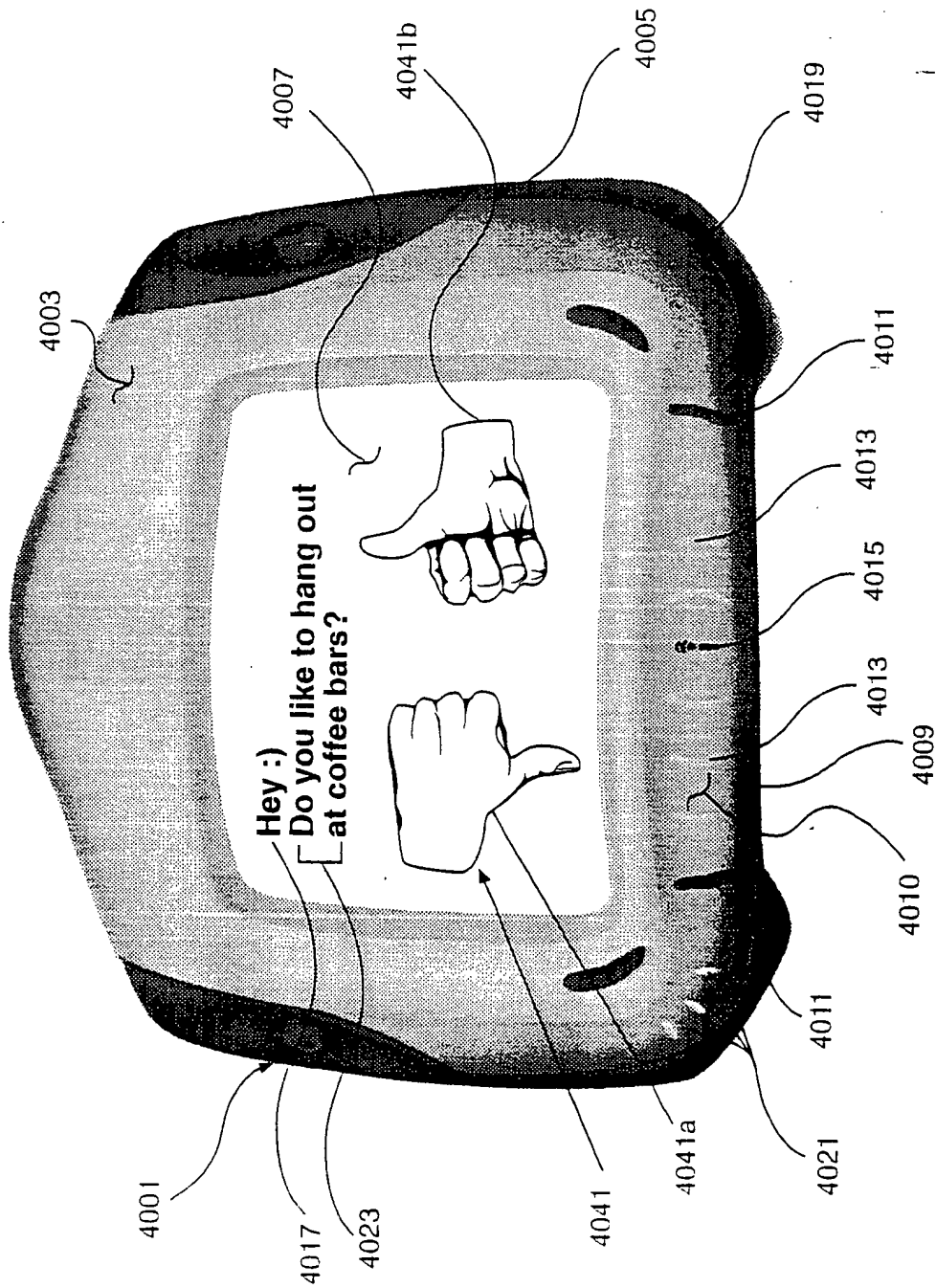


Figure 6F

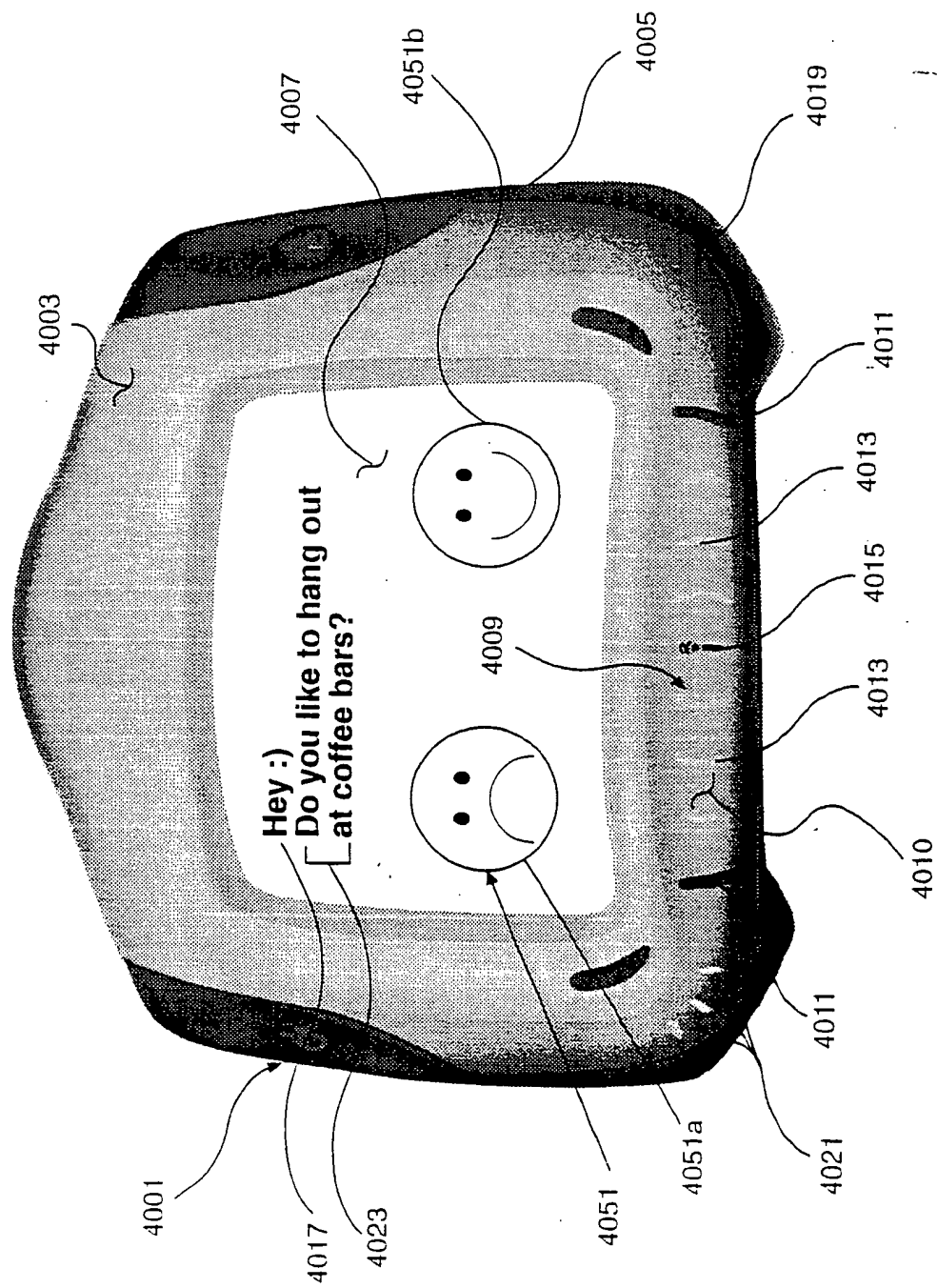
[illegible]

Figure 6G

4

3.

4

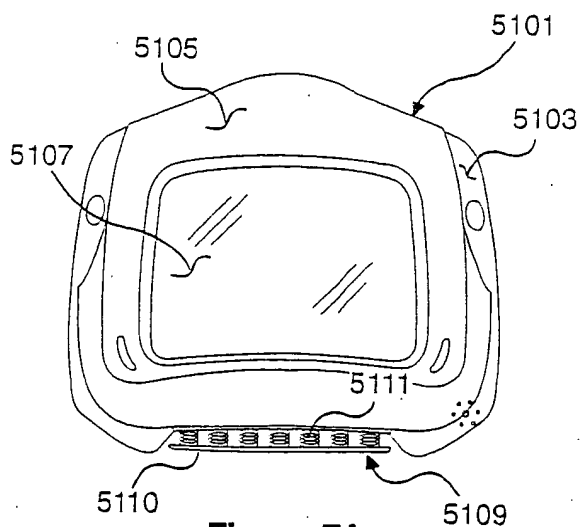


Figure 7A

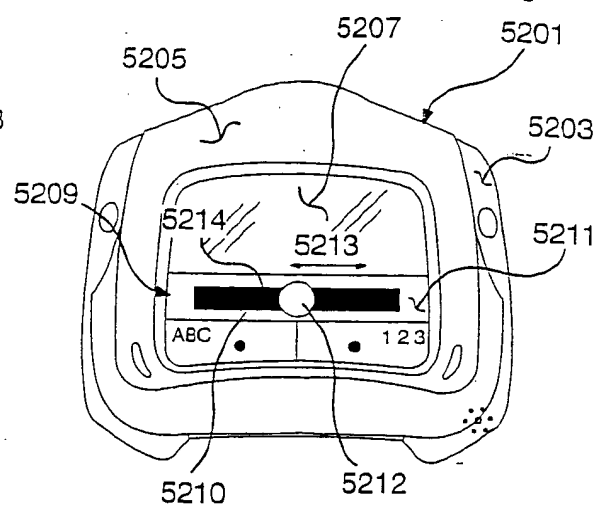


Figure 7B

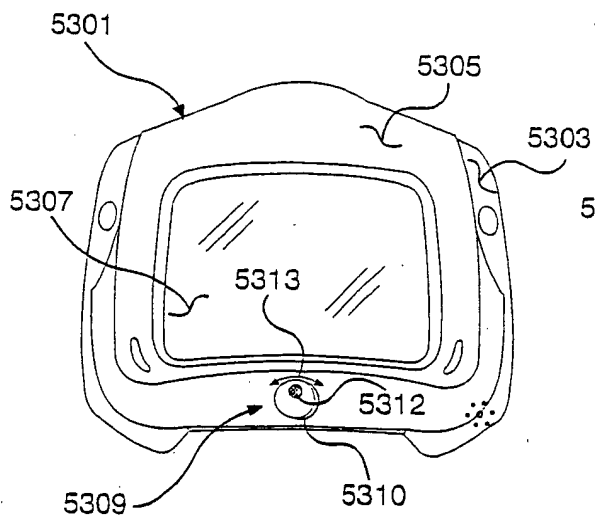


Figure 7C

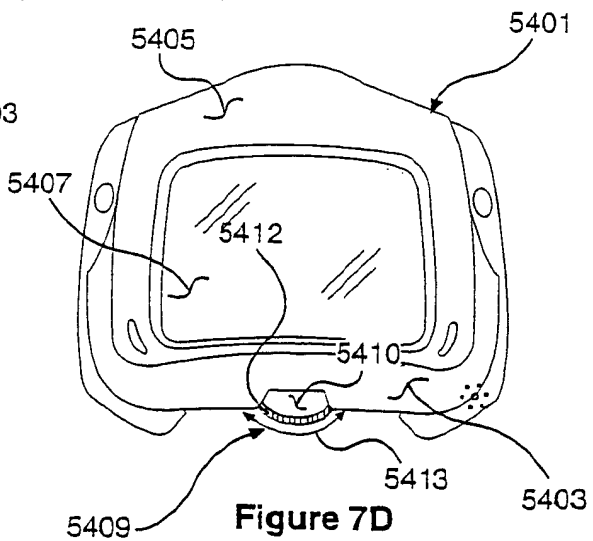


Figure 7D

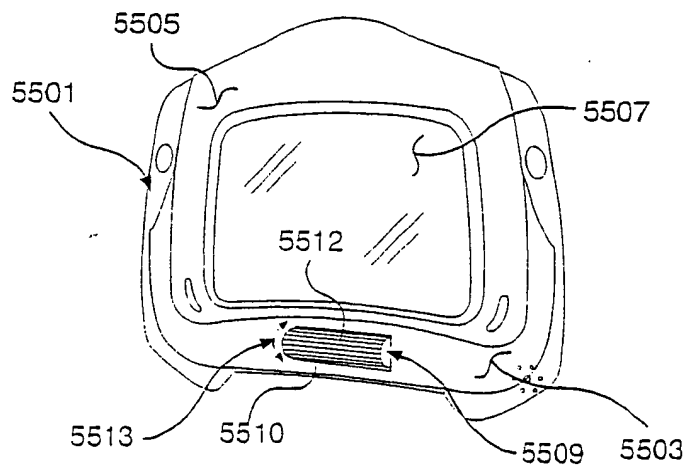


Figure 7E

2025-06-26 22:44:56

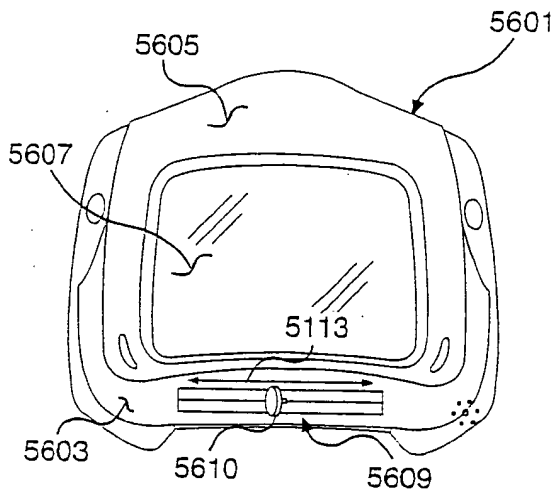


Figure 7F

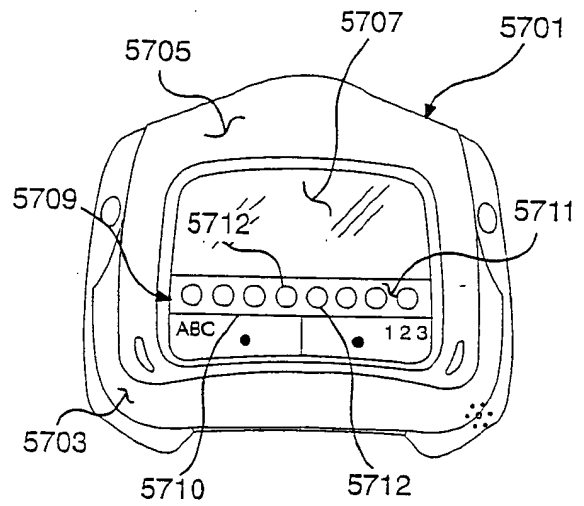


Figure 7G

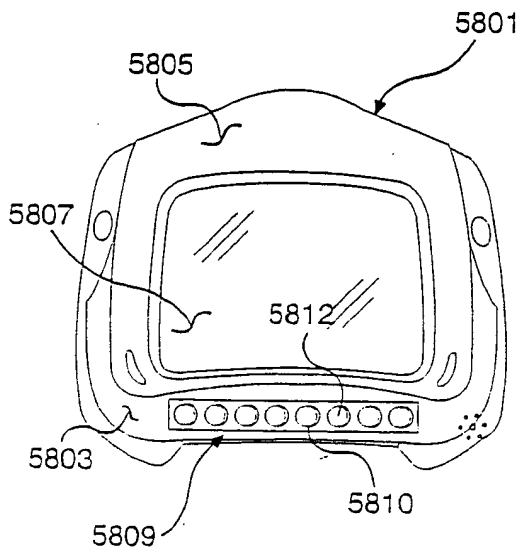


Figure 7H

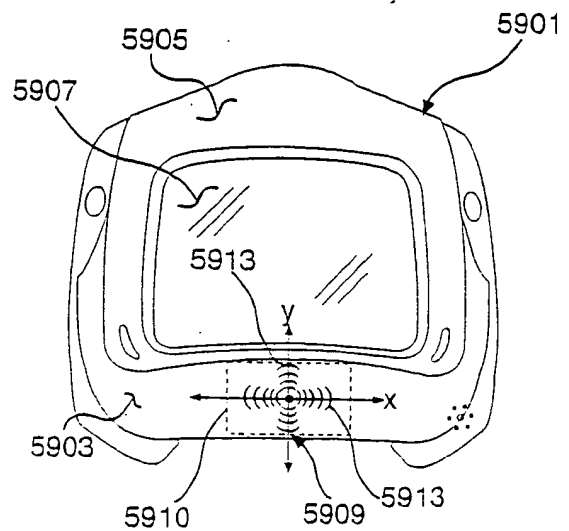


Figure 7I

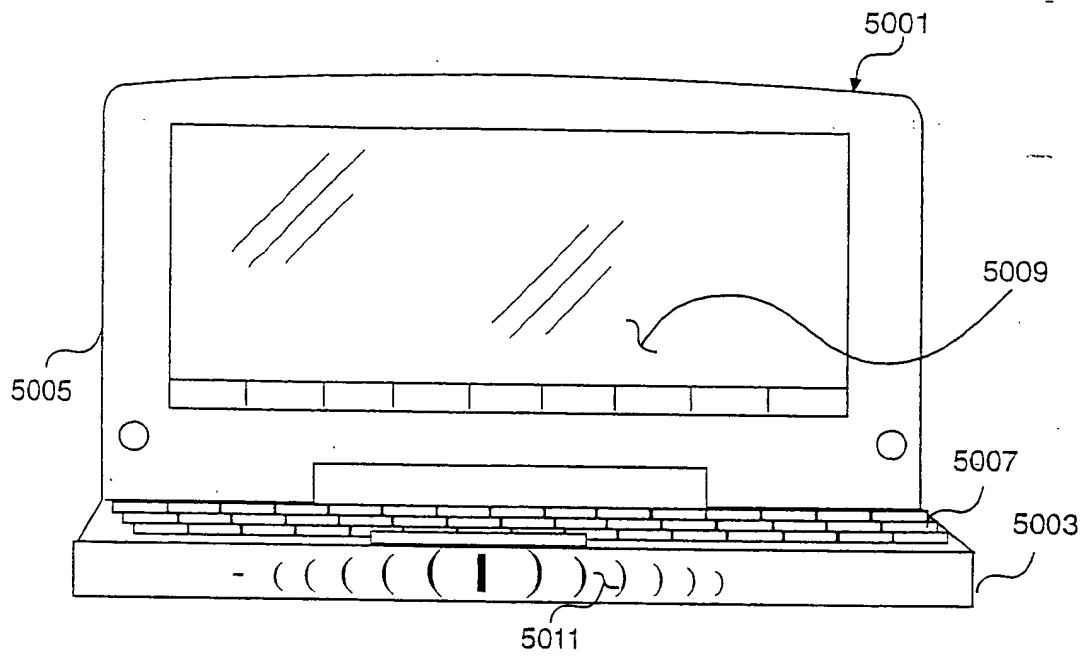


Figure 8A

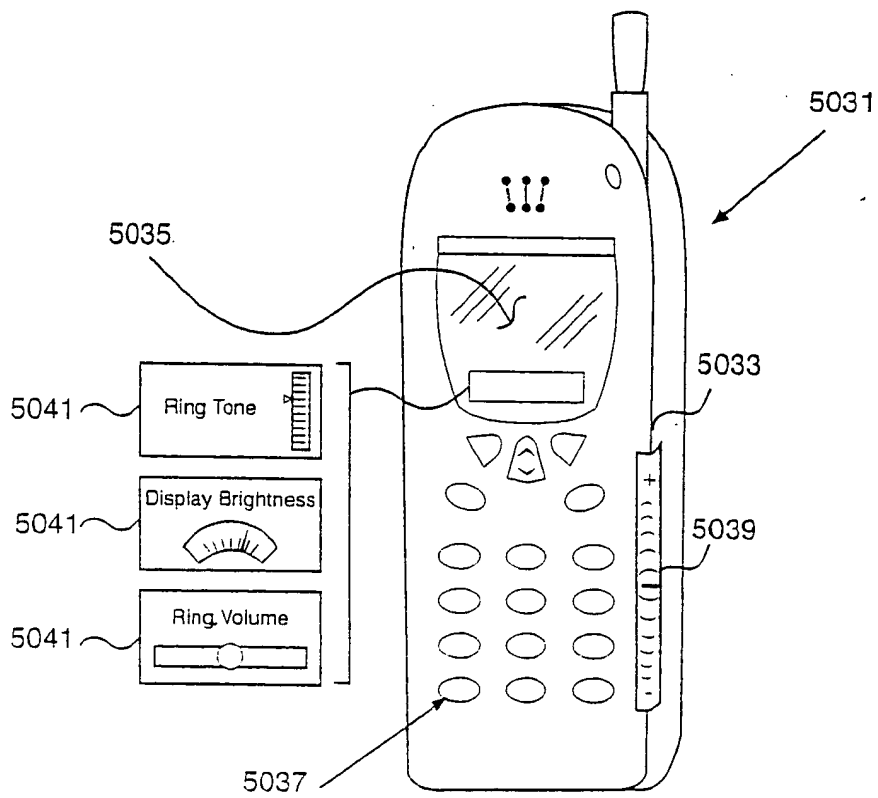


Figure 8B

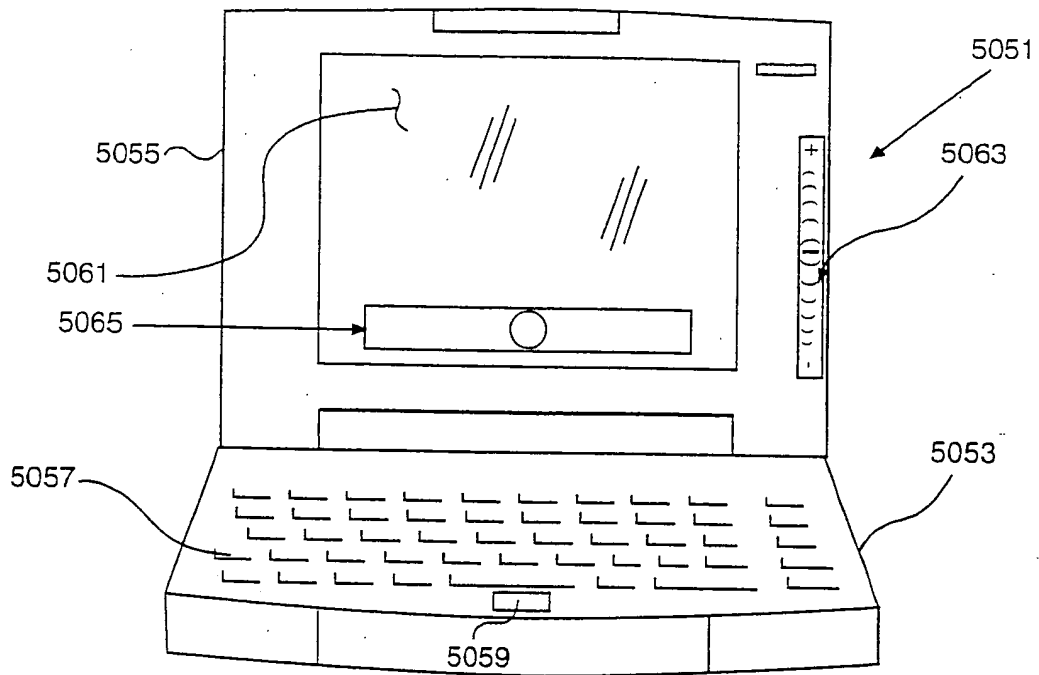


Figure 8C

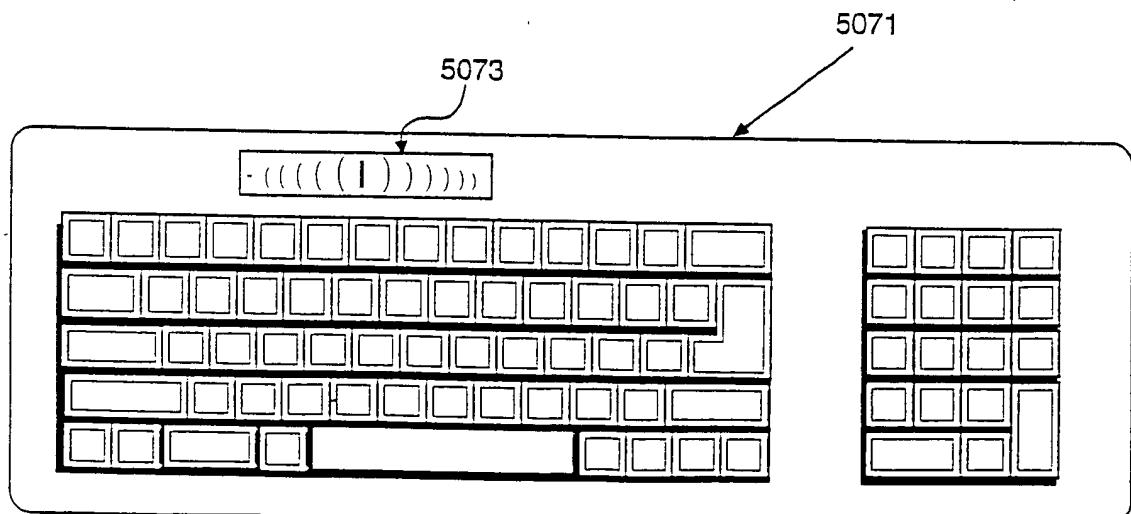


Figure 8D

2025-10-23 15:50

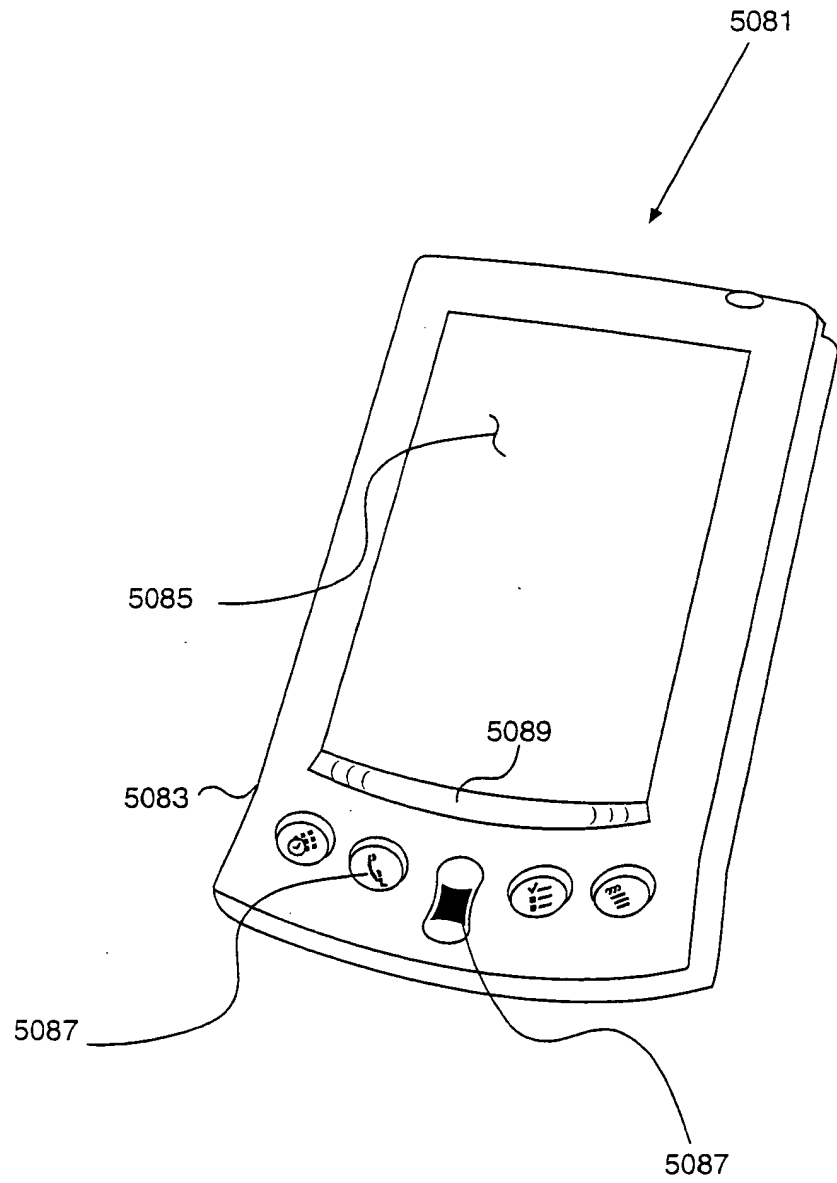


Figure 8E

2025-10-20 20:44:50

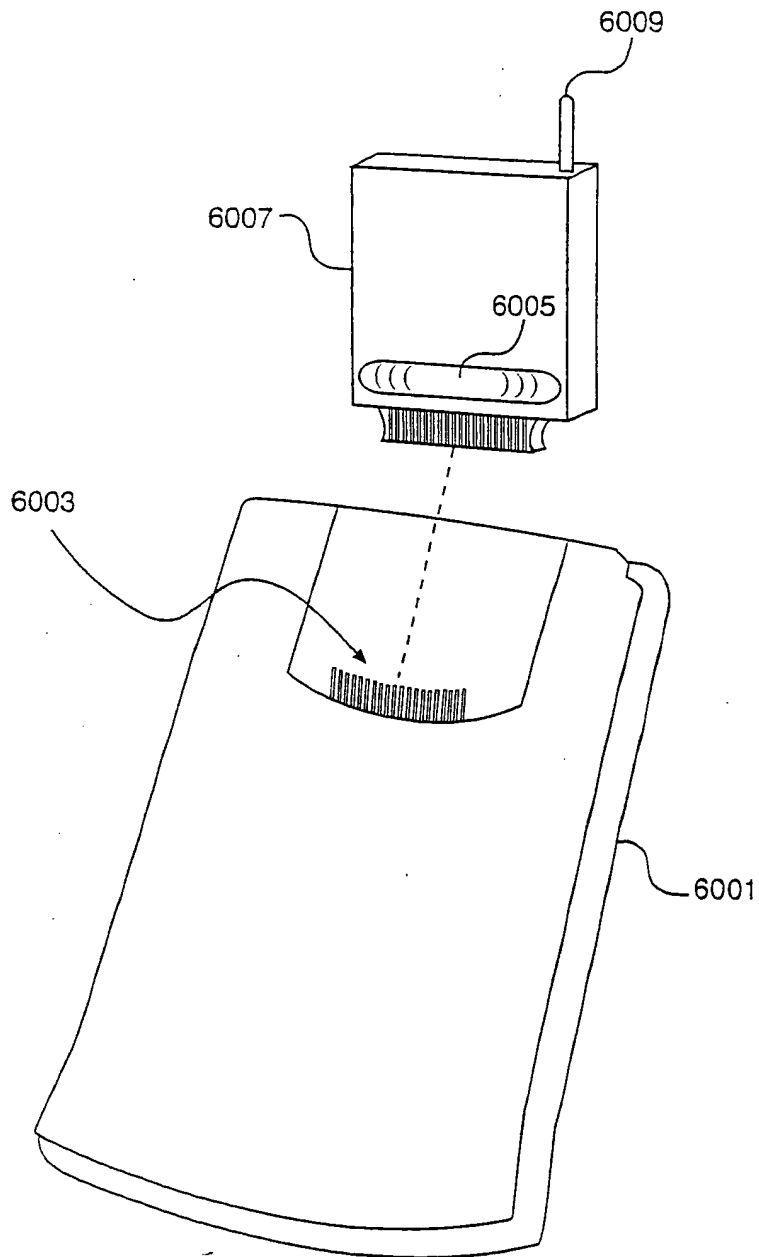


Figure 9

Age * Sex Crosstabulation

Age	Male	Female	Total
12	154	133	287
13	154	161	315
14	155	116	271
15	131	133	264
16	100	98	198
17	104	117	221
18	80	60	140
19	10	9	19
Total	888	827	1715

Fig 10A

Race * Sex Crosstabulation

Race		Male	Female	Total
White	N	783	714	1497
	%w/in race	52.30	47.70	100.00
Black	N	91	94	185
	%w/in race	49.19	50.81	100.00
Oriental	N	4	4	8
	%w/in race	50.00	50.00	100.00
American Indian	N	4		4
	%w/in race	100.00		100.00
Other	N	6	13	19
	%w/in race	31.58	68.42	100.00
Total	N	888	825	1713
	%w/in race	51.84	48.16	100.00

Fig 10B

2000 Census of the United States

Thumb Length

	N	Mean	Std Dev	1st	5th	50th	95th	99th
Total Males	292	6.3	0.7	5.0	5.3	6.3	7.3	8.1
Total Females	285	6.0	0.5	4.8	5.1	5.9	6.8	7.1
Males 12-15	196	6.1	0.6	5.0	5.2	6.1	7.1	7.8
Males 16-19	96	6.7	0.6	5.5	5.9	6.7	7.5	
Females 12-15	198	5.9	0.5	4.7	5.0	5.9	6.8	7.0
Females 16-19	87	6.1	0.5	5.1	5.3	6.2	6.9	

Fig. 10c

Thumb Length: Males

				Percentiles				
Age	N	Mean	Std Dev	1st	5th	50th	95th	99th
12	46	5.7	0.4	4.9	5.0	5.7	6.3	
13	46	6.0	0.5	5.1	5.2	5.9	6.9	
14	54	6.2	0.6	5.1	5.2	6.1	7.3	
15	50	6.6	0.4	5.5	5.9	6.6	7.3	
16	31	6.6	0.4	5.7	5.9	6.6	7.1	
17	38	6.8	0.7	5.5	5.8	6.8	7.9	
18	25	6.8	0.4	6.2	6.2	6.9	7.5	
19	2	7.6	0.8	7.0	7.0	7.6		

Fig. 10D

Thumb Length: Females

				Percentiles				
Age	Valid N	Mean	Std Dev	1st	5th	50th	95th	99th
12	48	5.7	0.5	4.7	4.9	5.8	6.5	
13	61	5.9	0.5	4.6	4.9	5.8	6.6	
14	44	5.9	0.5	4.8	5.0	5.9	6.9	
15	45	6.1	0.4	5.4	5.4	6.0	6.9	
16	25	6.2	0.5	5.1	5.2	6.3	7.1	
17	42	6.0	0.5	5.1	5.2	6.0	7.0	
18	16	6.2	0.3	5.7	5.7	6.2		
19	4	6.1	0.3	5.7	5.7	6.1		

Fig. 10E

Fig 10F

Correlations: Total

		THUMB LENGTH	HAND LENGTH
THUMB LENGTH	Pearson Correlation	1	0.770
	Sig. (2-tailed)**	.	0.000
	N	577	576
HAND LENGTH	Pearson Correlation	0.770	1
	Sig. (2-tailed)**	0.000	.
	N	576	1707

** Correlation is significant at the 0.01 level (2-tailed)**.

Fig. 10G

Correlations: Male

		THUMB LENGTH	HAND LENGTH
THUMB LENGTH	Pearson Correlation	1	0.790
	Sig. (2-tailed)**	.	0.000
	N	292	291
HAND LENGTH	Pearson Correlation	0.790	1
	Sig. (2-tailed)**	0.000	.
	N	291	882

** Correlation is significant at the 0.01 level (2-tailed)**.

Correlations: Female

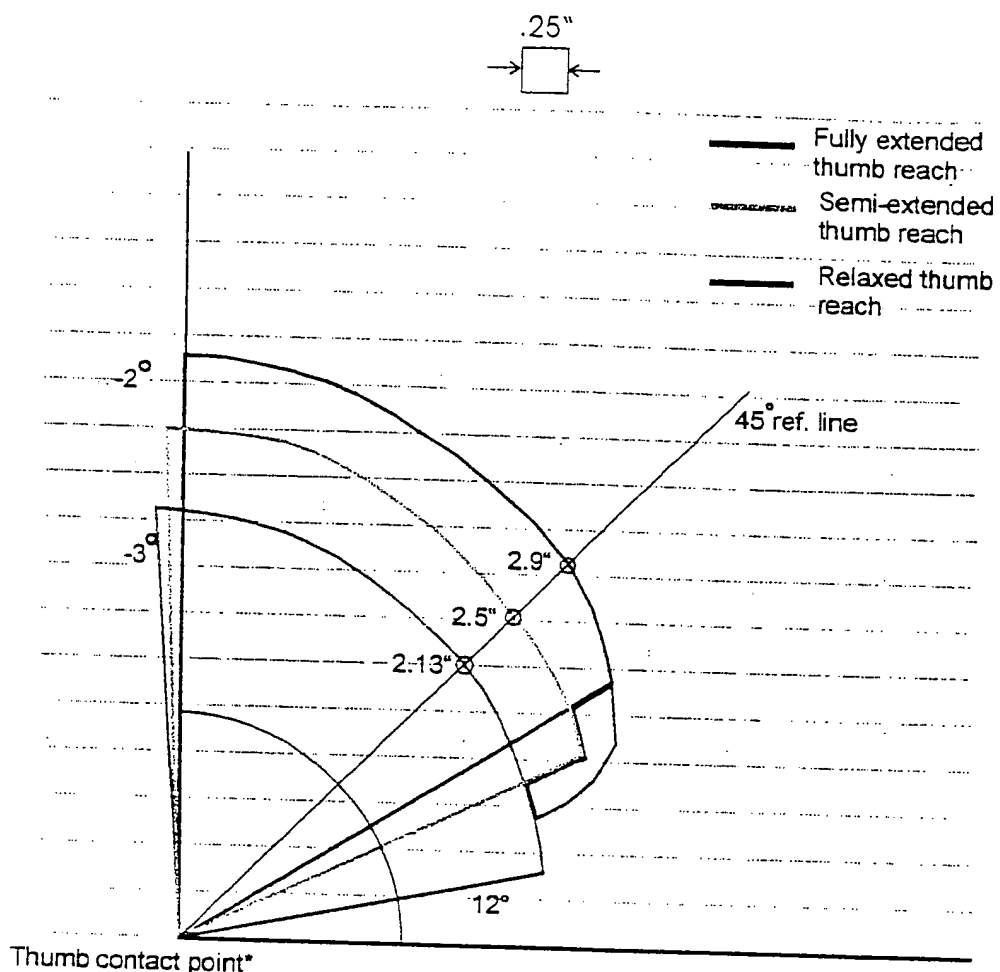
		THUMB LENGTH	HAND LENGTH
THUMB LENGTH	Pearson Correlation	1	0.657
	Sig. (2-tailed)**	.	0.000
	N	285	285
HAND LENGTH	Pearson Correlation	0.657	1
	Sig. (2-tailed)**	0.000	.
	N	285	825

** Correlation is significant at the 0.01 level (2-tailed)**.

Fig. 10H

2025-03-03 10:00:00

030703 2344653



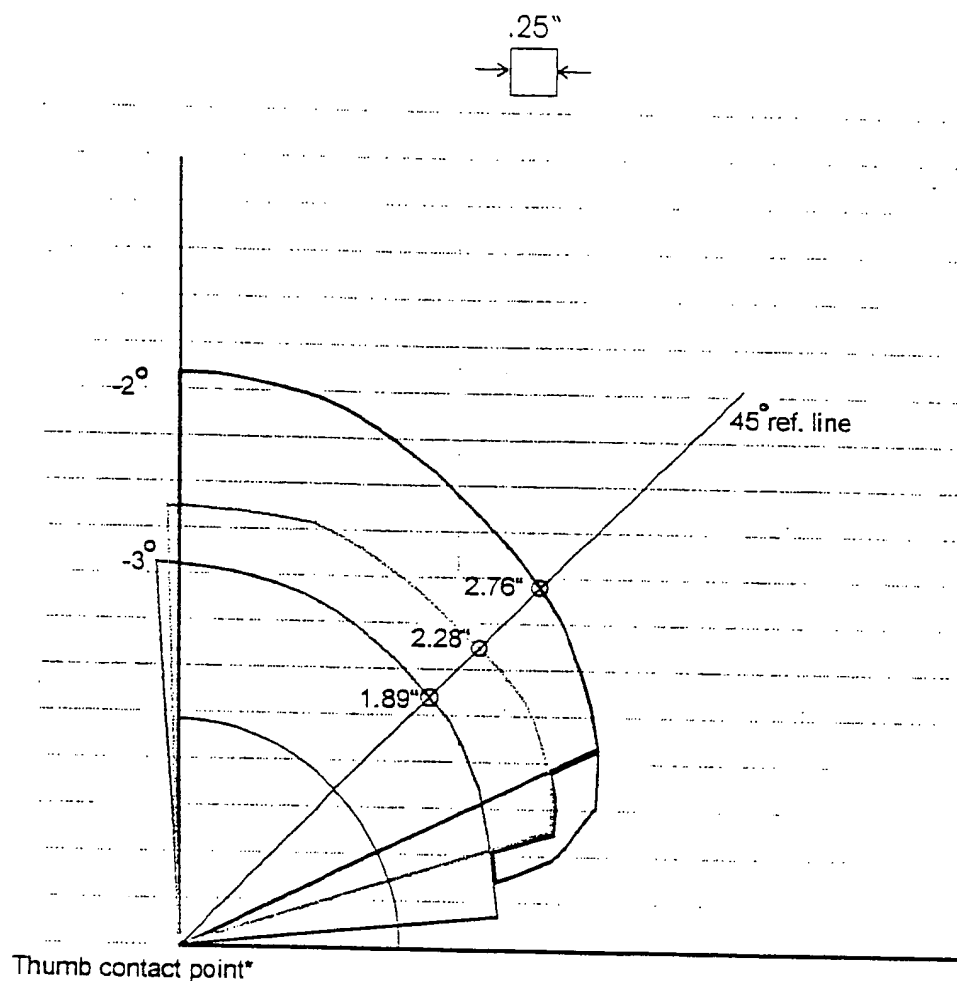
1st Percentile Left Thumb Sweeps, Females Age 12-19
 (Uniform object thickness 0.75", corner radius 1.5")
 Note: each data point represents thumb tip at centerline of thumb

* Located vertically over point of thumb base contact with corner, at midpoint of lower corner radius on device

Fig 10I

C23

205760 234463



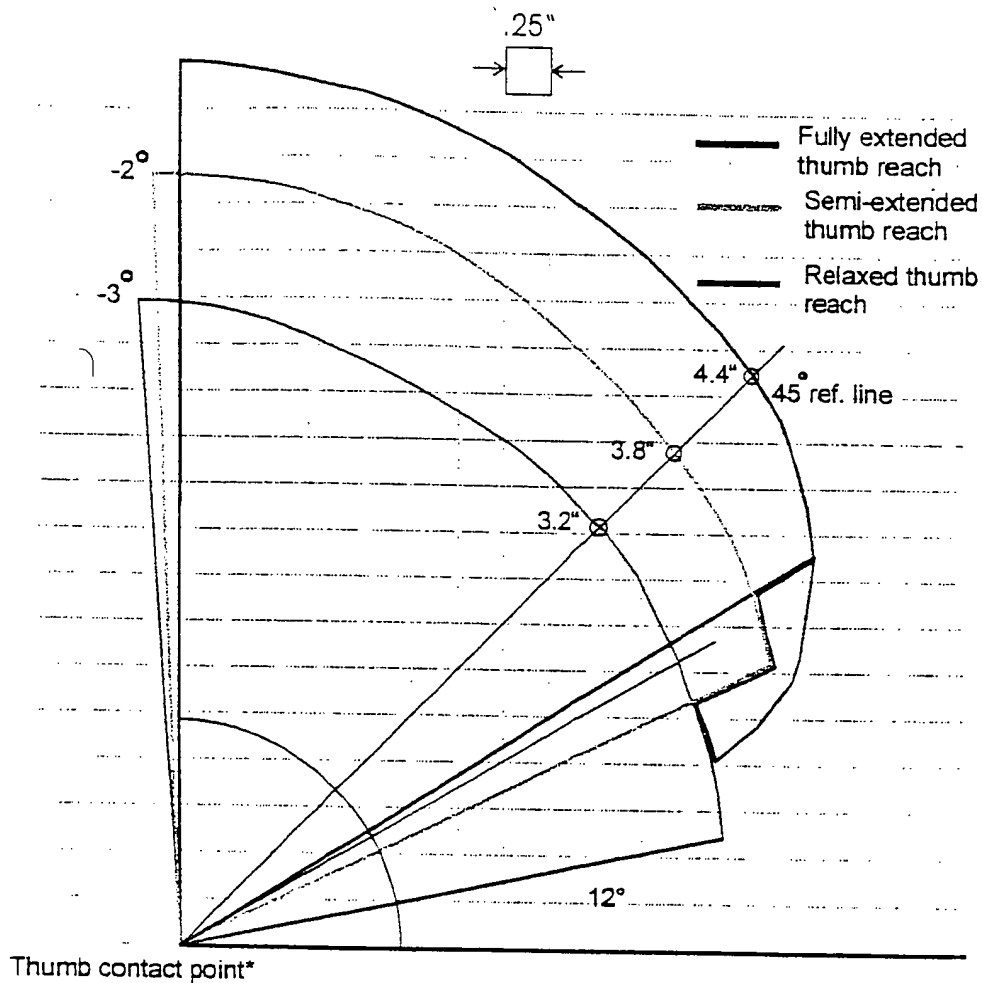
1st Percentile Left Thumb Sweeps, Females Age 12-19
(Uniform object thickness 0.75", corner radius 0.75")

* Located vertically over point of thumb base contact with corner,
at midpoint of lower corner radius on device

Fig 10J

C24

305460 234460



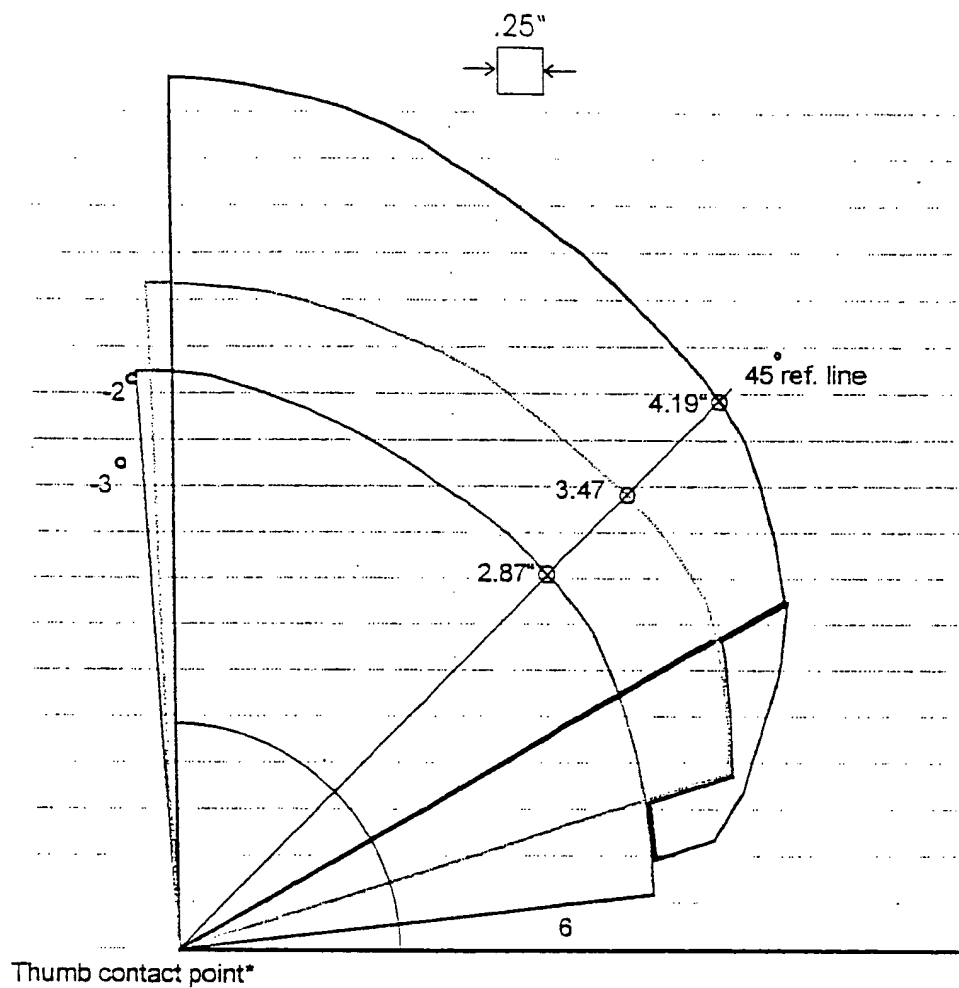
95th Percentile Left Thumb Sweeps, Male Age 12-19
(Uniform object thickness 0.75", corner radius 1.5")
Note: each data point represents thumb tip at centerline of thumb

* Located vertically over point of thumb base contact with corner, at midpoint of lower corner radius on device

Fig 10K

C25

2025-03-03 10:00:00



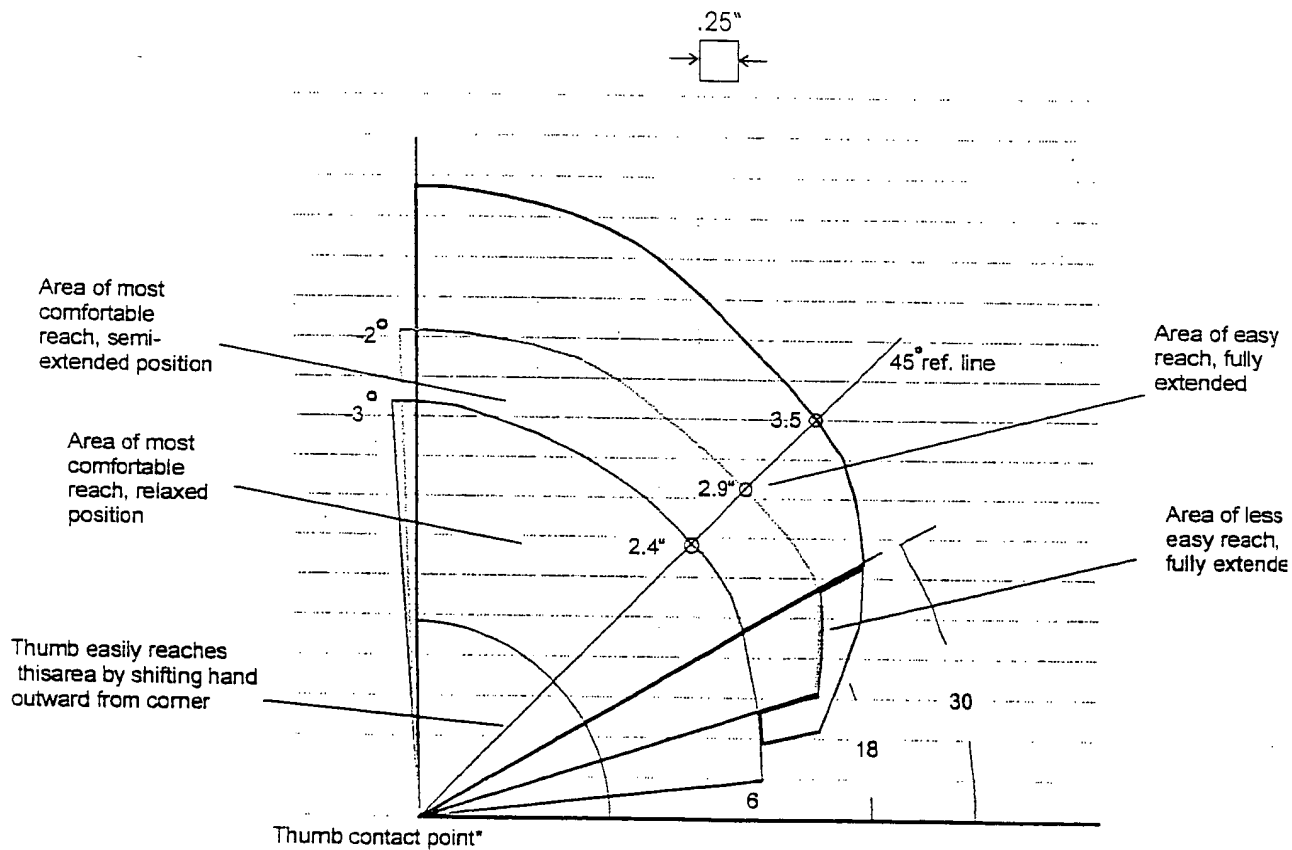
95th Percentile Left Thumb Sweeps, Male Age 12-19
(Uniform object thickness 0.75", corner radius 0.75")

* Located vertically over point of thumb base contact with corner,
at midpoint of lower corner radius on device

Fig 10L

C26

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50th Percentile Left Thumb Sweeps, M+F Age 12-19
(Uniform object thickness 0.75", corner radius 0.75")

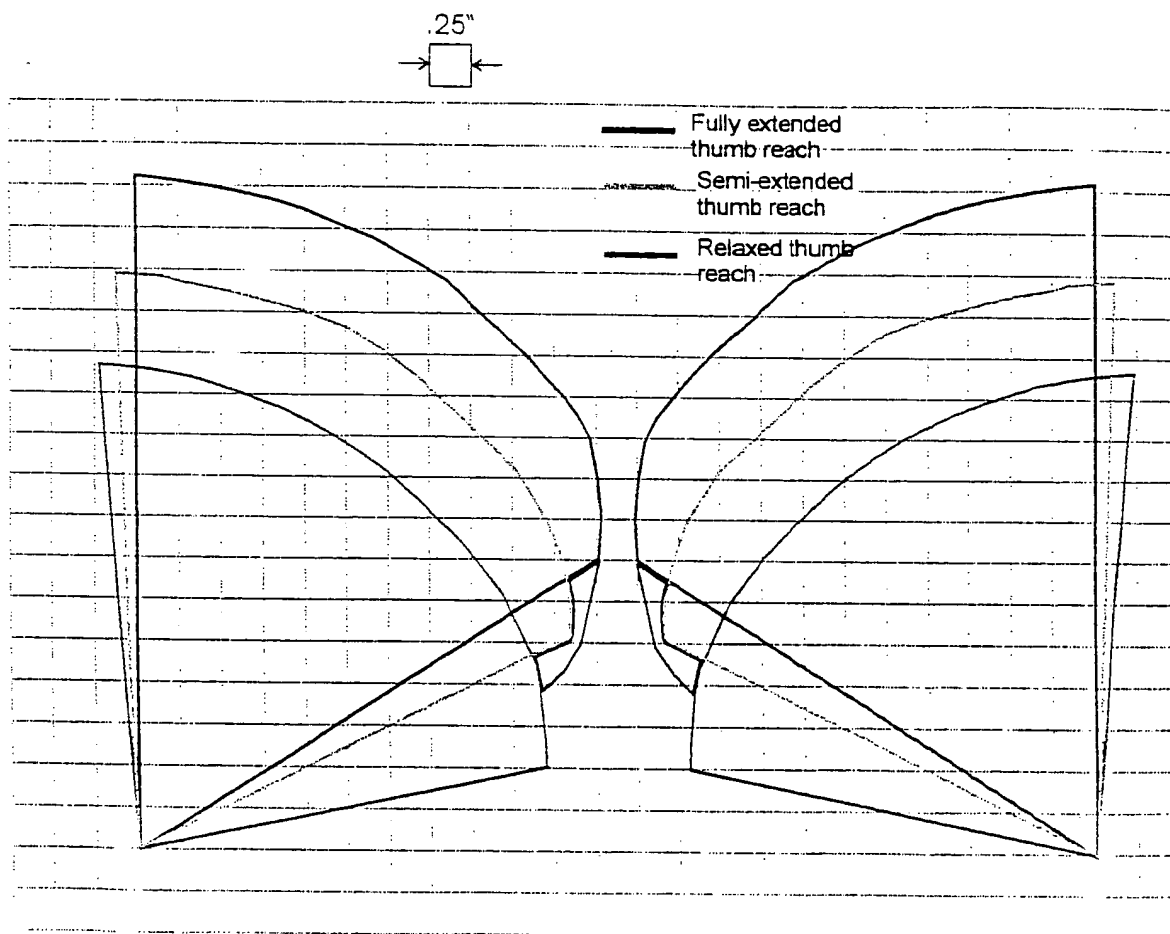
* Located vertically over point of thumb base contact with corner, at midpoint of lower corner radius on device

Fig 10N

C 28

C29

01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 00



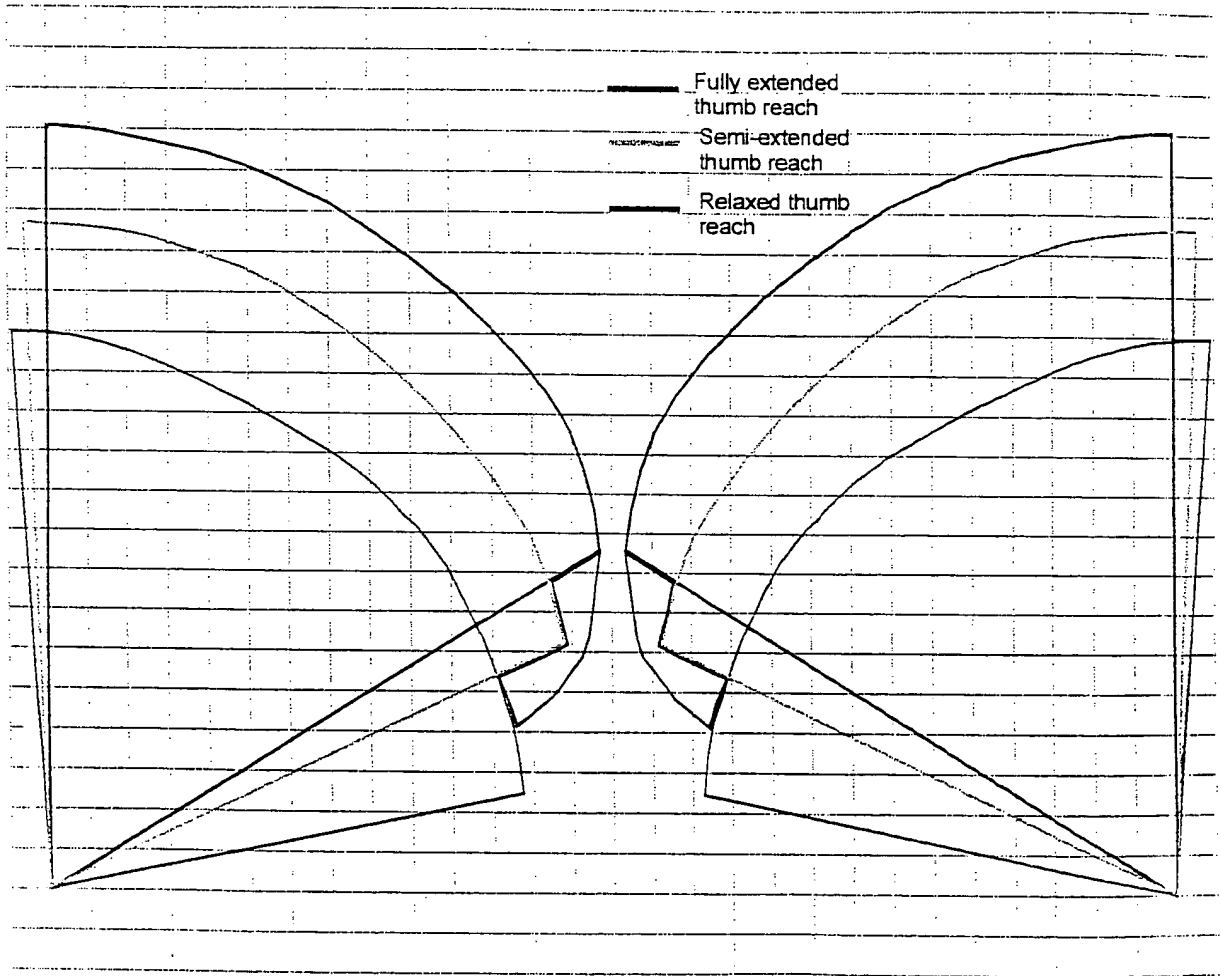
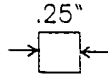
50th Percentile Combined Thumb Sweeps, Male+Females Age 12-19
(Uniform object thickness 0.75", corner radius 1.5")

Notes: Each data point represents thumb tip at centerline of thumb
Left and right thumb envelopes are arbitrarily placed relative to each other
to permit cutting or measurements without overlapped reach lines

* Located vertically over point of thumb base contact with corner,
at midpoint of lower corner radius on device

Fig. 10A

C30



95th Percentile Combined Thumb Sweeps, Males Age 12-19
 (Uniform object thickness 0.75", corner radius 1.5")

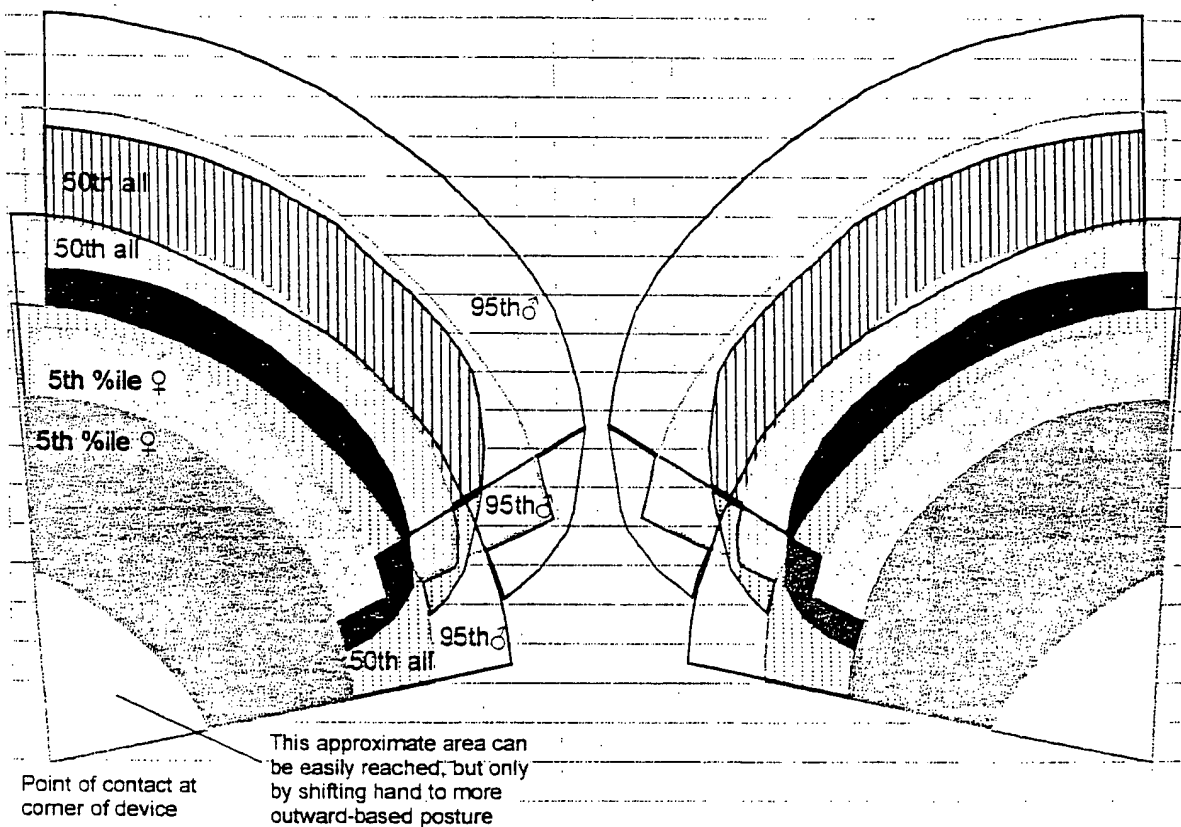
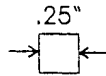
Notes: Each data point represents thumb tip at centerline of thumb
 Left and right thumb envelopes are arbitrarily placed relative to each other
 to permit cutting or measurements without overlapped reach lines

* Located vertically over point of thumb base contact with corner,
 at midpoint of lower corner radius on device

Fig 10Q

C31

- Fully extended thumb reach
- Semi-extended thumb reach
- Relaxed thumb reach
- Area reached with some difficulty while fully extended



Combined Thumb Sweeps, 1st Percentile Females Through 95th Percentile Males Age 12-19

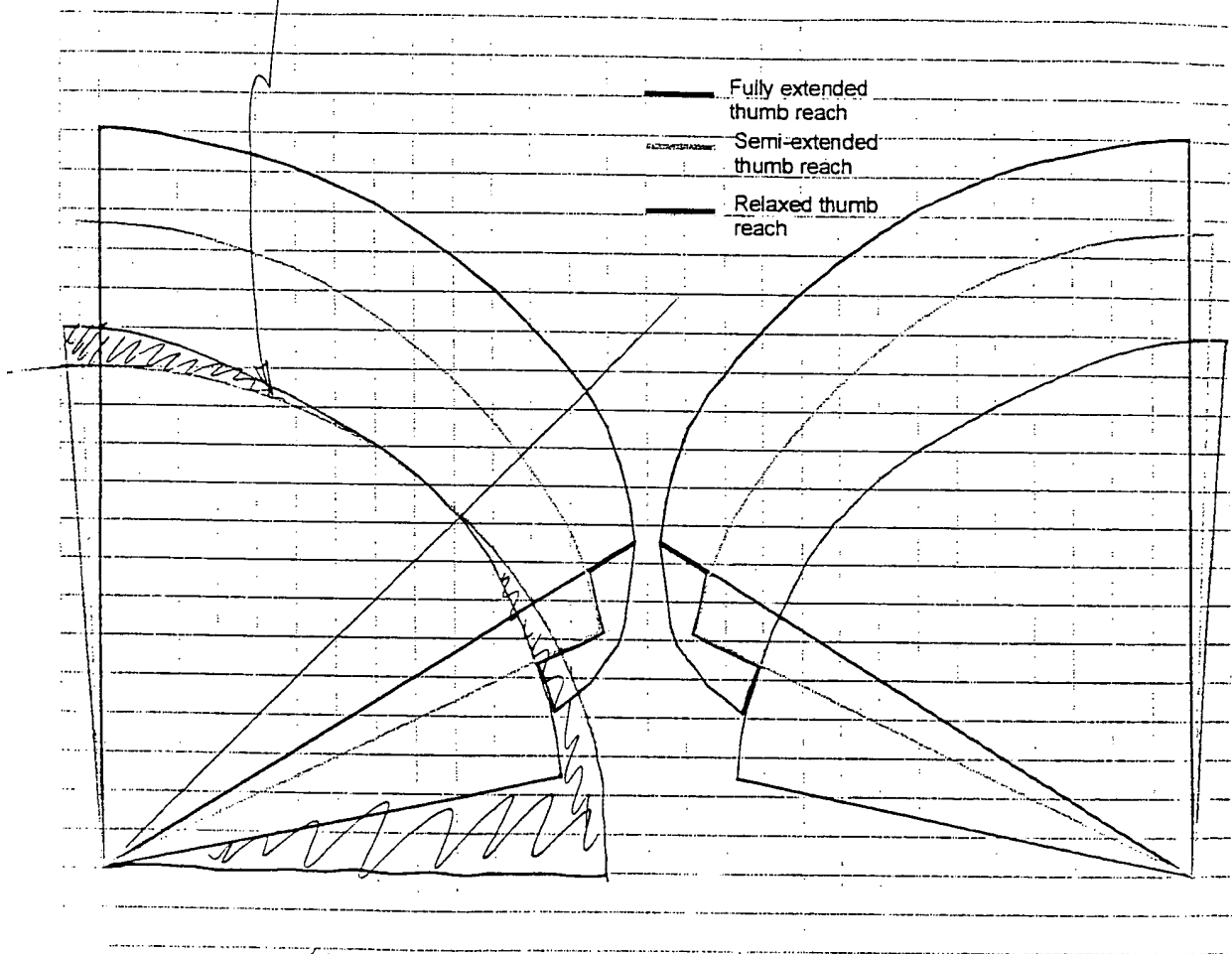
(Uniform object thickness 0.75", corner radius 1.5")

Notes: Each data point represents thumb tip at centerline of thumb
Left and right thumb envelopes are arbitrarily placed relative to each other to permit cutting or measurements without overlapped reach lines

Located vertically over point of thumb base contact with corner, at midpoint of lower corner radius on device

Fig 10R

C32



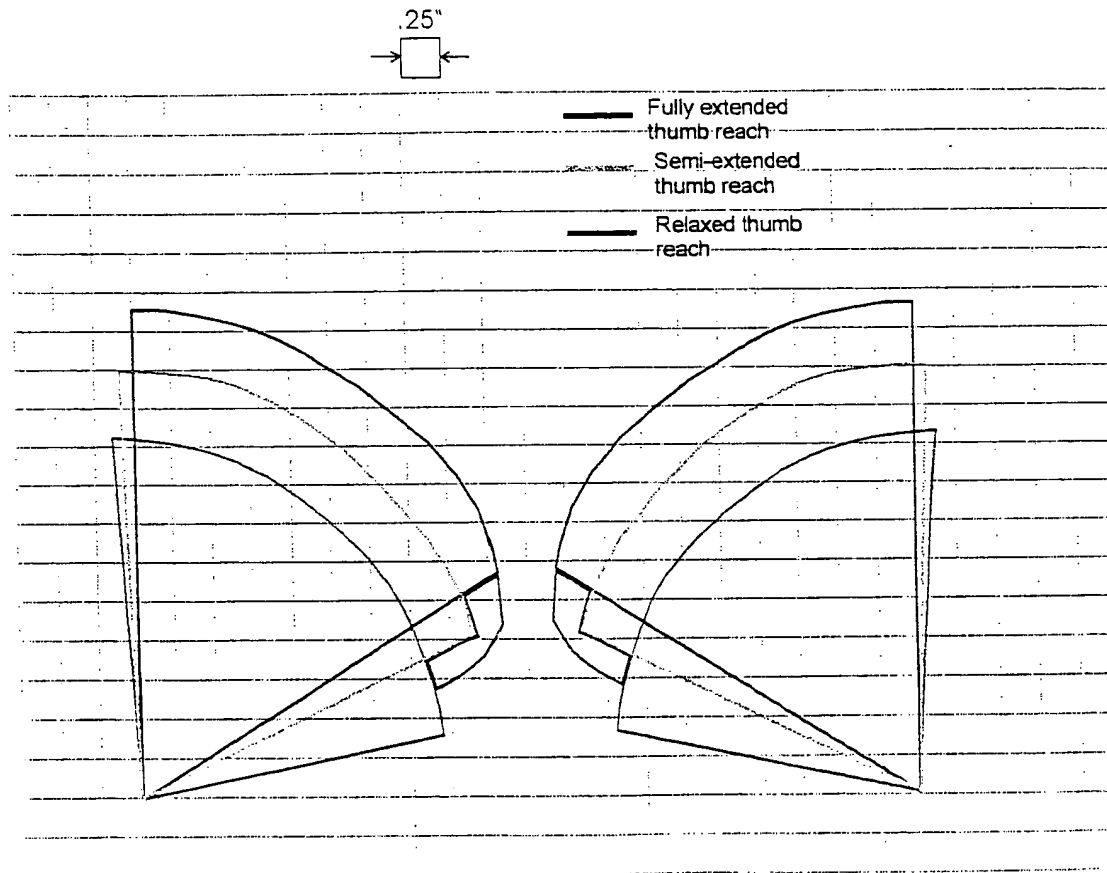
1st Percentile Combined Thumb Sweeps, ^{males} Females Age 12-19
(Uniform object thickness 0.75", **corner radius 1.5"**)

Note: each data point represents thumb tip at centerline of thumb

* Located vertically over point of thumb base contact with corner, at midpoint of lower corner radius on device

Fig 10.5

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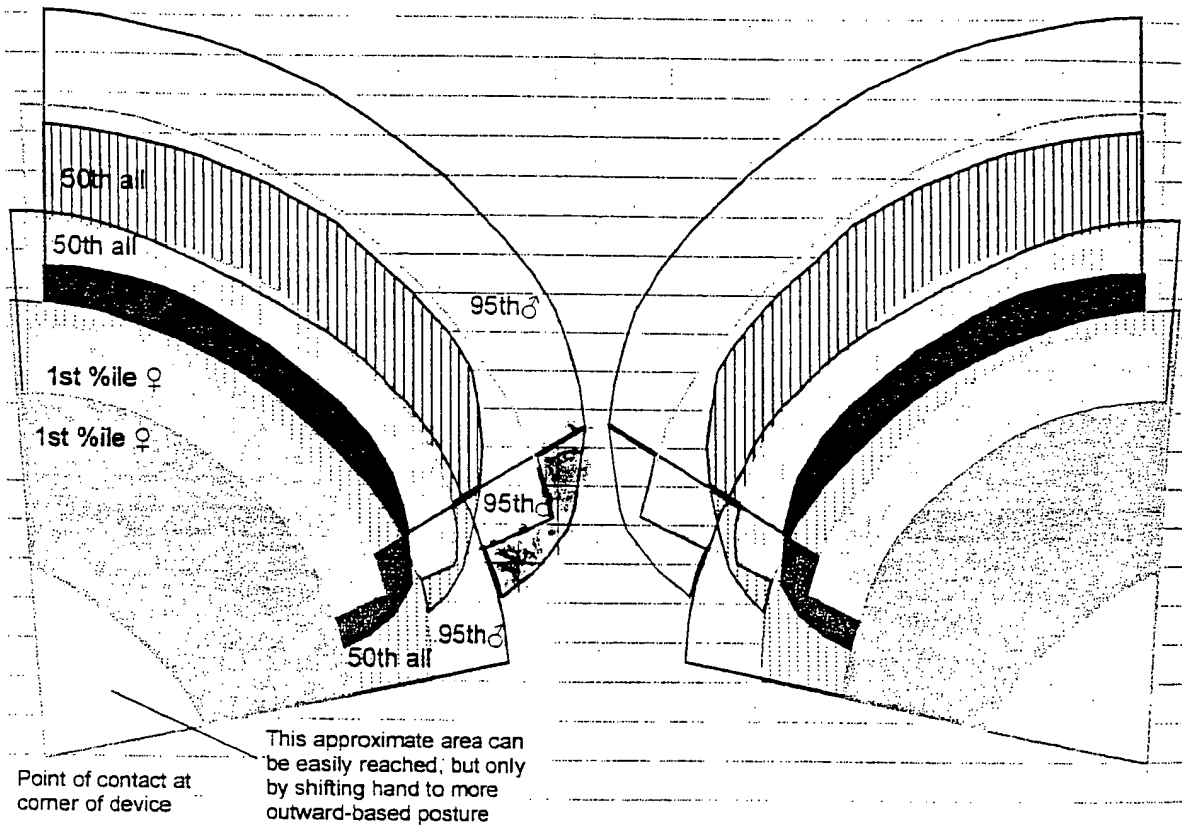
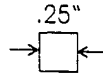
1st Percentile Combined Thumb Sweeps, Females Age 12-19
(Uniform object thickness 0.75", **corner radius 1.5"**)

Notes: Each data point represents thumb tip at centerline of thumb
Left and right thumb envelopes are arbitrarily placed relative to each other
to permit cutting or measurements without overlapped reach lines

Fig. 10 T

C34

- Fully extended thumb reach
- Semi-extended thumb reach
- Relaxed thumb reach
- Area reached with some difficulty while fully extended



Combined Thumb Sweeps, 1st Percentile Females Through 95th Percentile Males Age 12-19

(Uniform object thickness 0.75", corner radius 1.5")

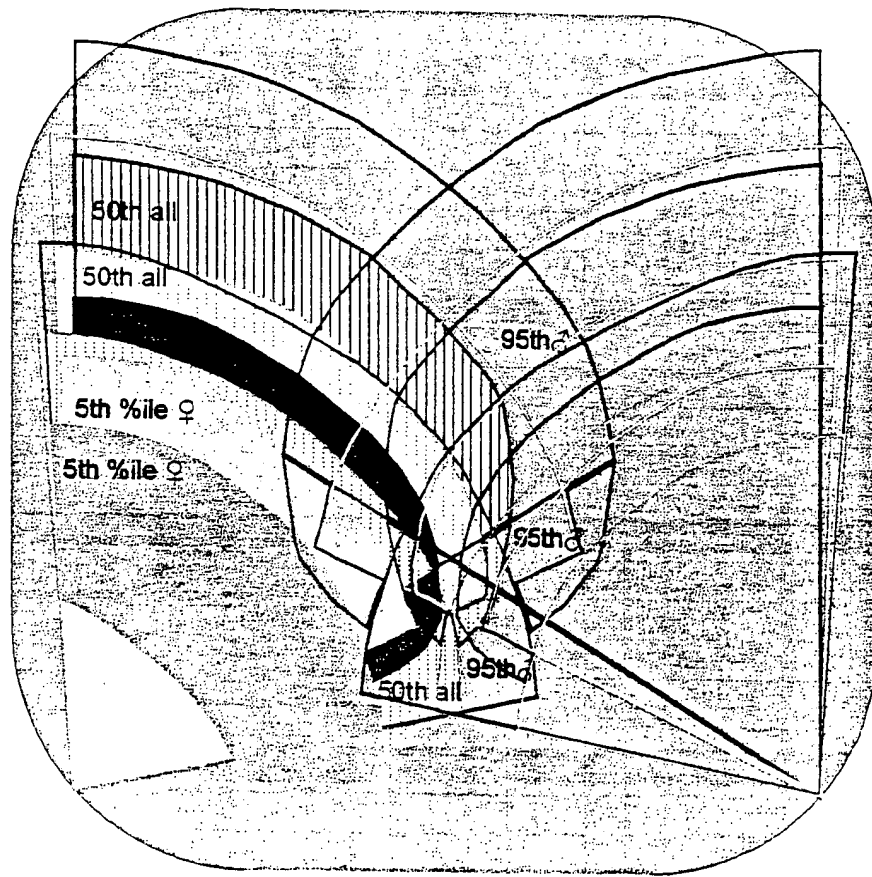
Notes: Each data point represents thumb tip at centerline of thumb
 Left and right thumb envelopes are arbitrarily placed relative to each other
 to permit cutting or measurements without overlapped reach lines

Fig 10.11

Located vertically over point of thumb base contact with corner,
 at midpoint of lower corner radius on device

035

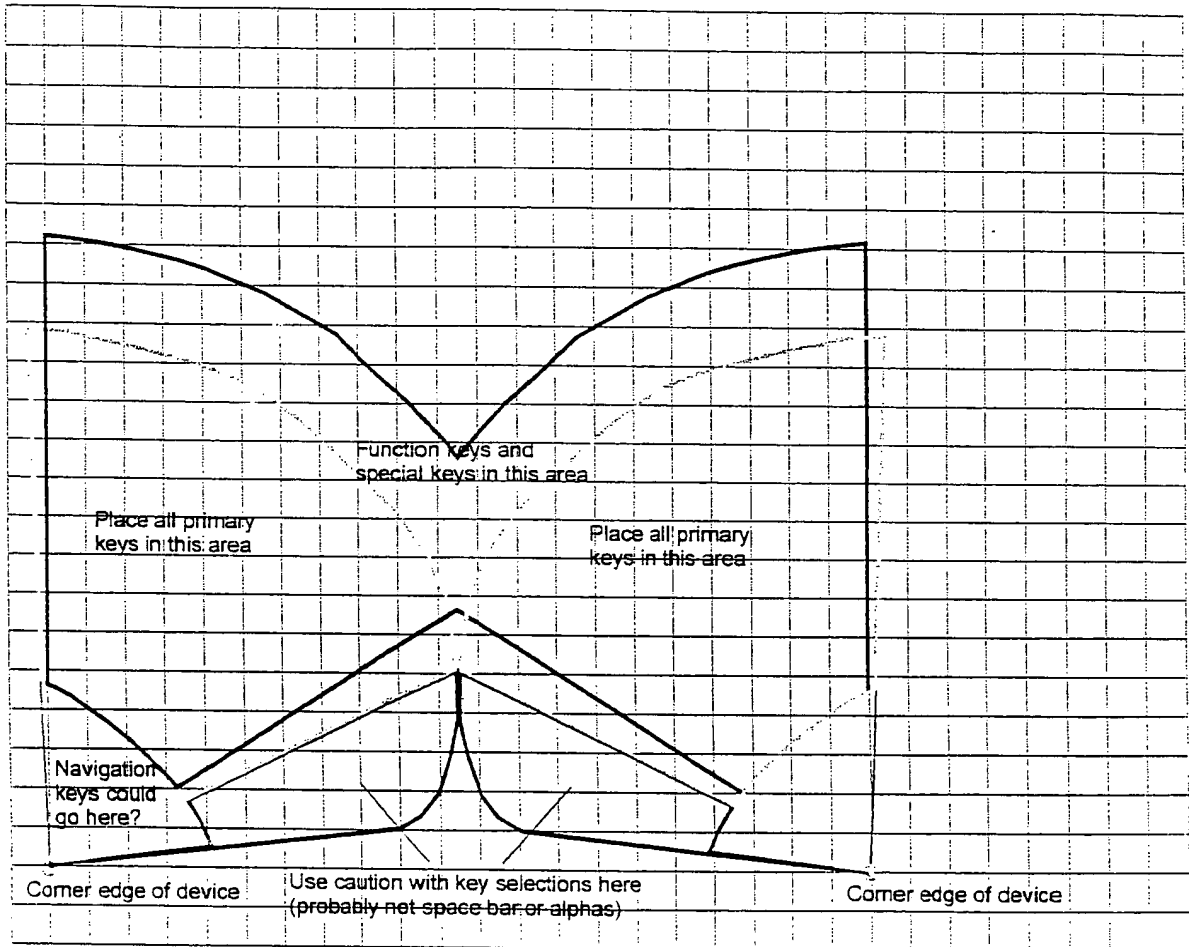
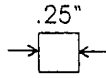
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Thumb sweeps on 1.5 corner template, 5.5"
(50th percentile relaxed reaches overlap 0.15 in.)

Fig 10V

C36



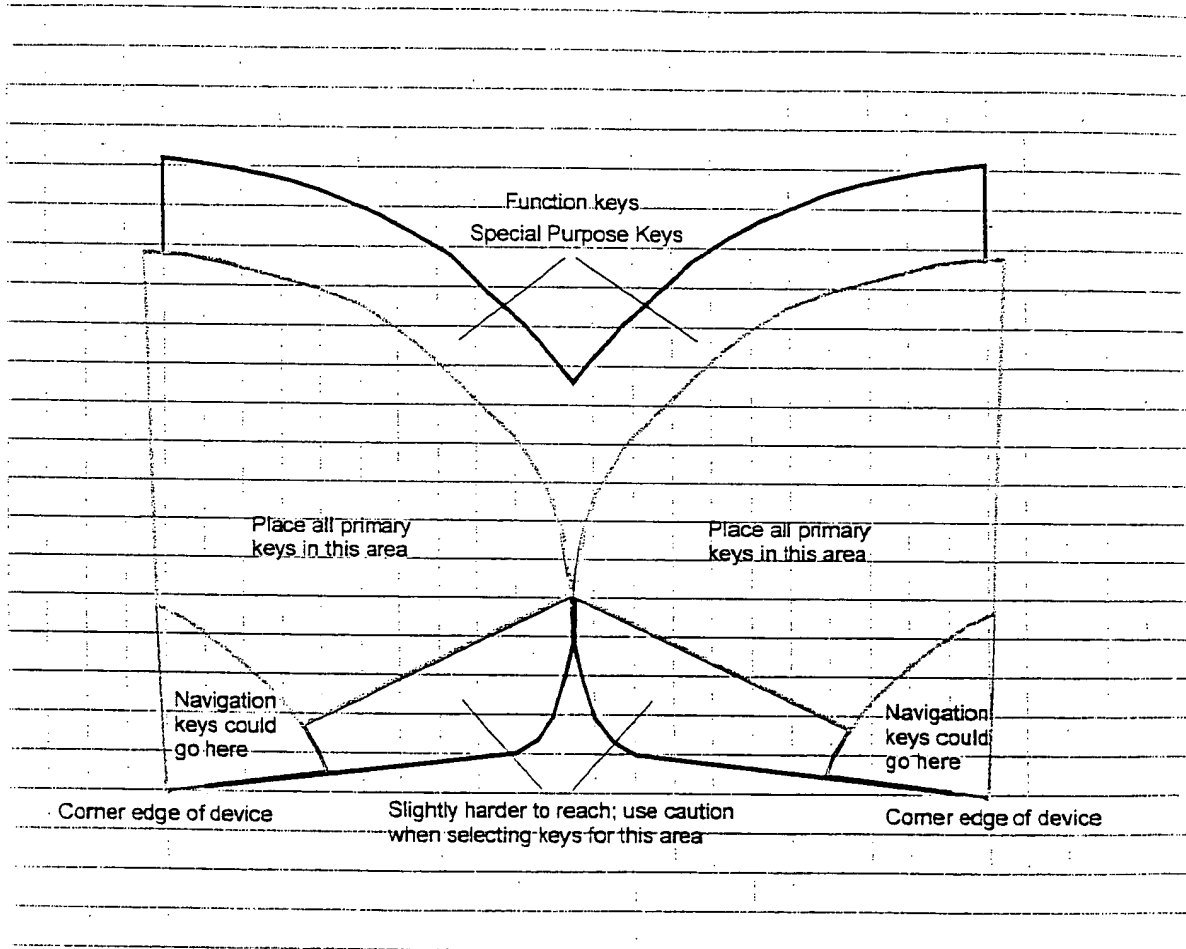
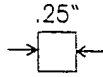
Key Placement Guidelines

(Uniform object thickness 0.75", corner radius 1.5")

Using 50th percentile semi-extended reach for primary keying area

Fig 10W

C37



Key Placement Guidelines


Device thickness 0.75" (uniform), corner radius 1.5" (plan view), corner radius approx. 1.0" (side view)

Notes:

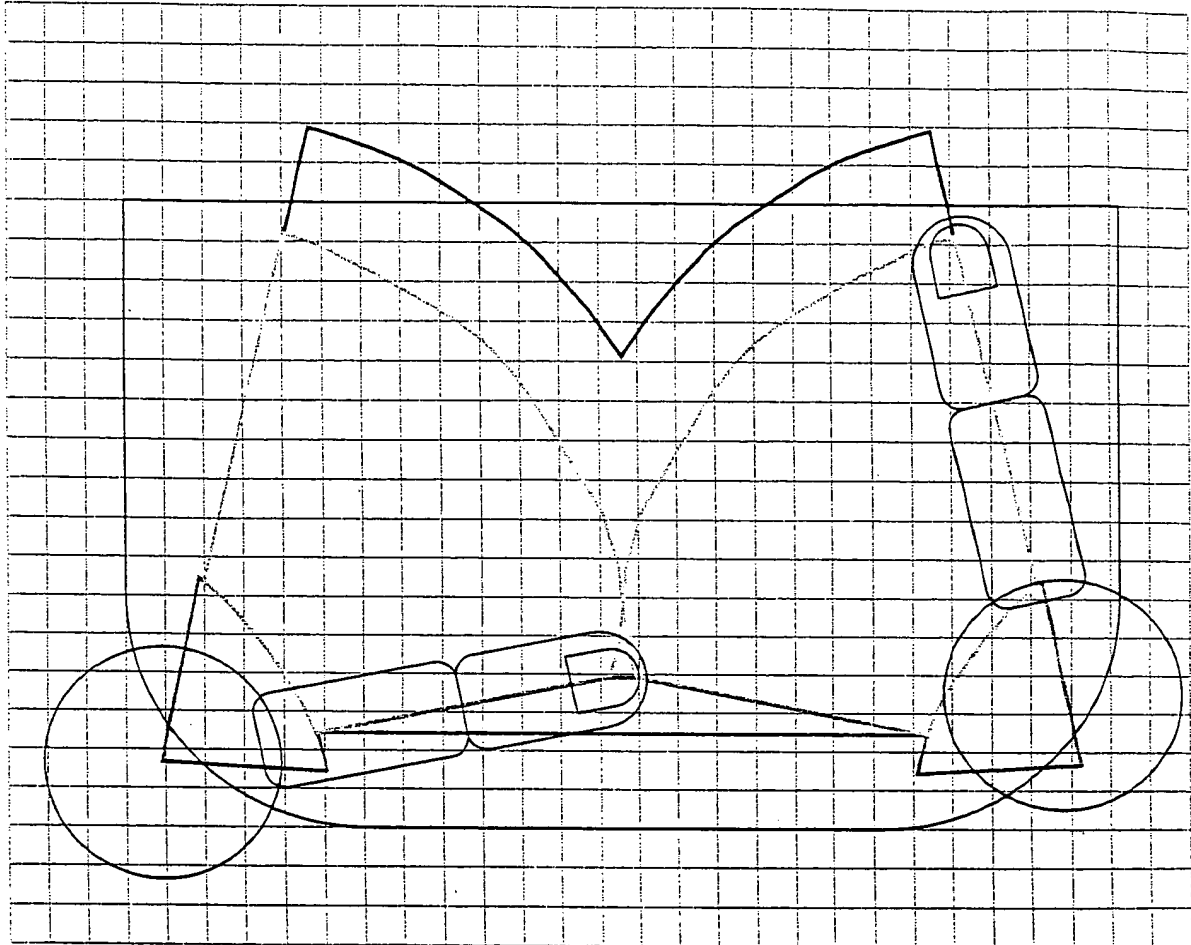
For device thickness of 0.75 in., keying area width is approx. 5.5 in.
 Reach areas are valid for placement of thumbs at corner or along sides
 Smaller corner radii decrease reach areas but permit easier reach into blue areas
 Device thicknesses greater than 0.75 in. quickly decrease size of reach areas
 Reach plots generally indicate a device width of approx. 6.0 in.

Fig 10X

C38

.25"


Back from Brook



Combined male and female

1. Used reach envelope of 50% ~~woman~~ with relaxed grip (not pick or extended reach).
2. Drew geometry to represent the approx dims of 50% woman. Circle represents the palm at the base and crotch of the thumb.
3. Rotated the reach envelope approx 15° to more closely resemble the hand posture of holding a game controller.

Fig 10Y

C 39

Automated Wrapping Process

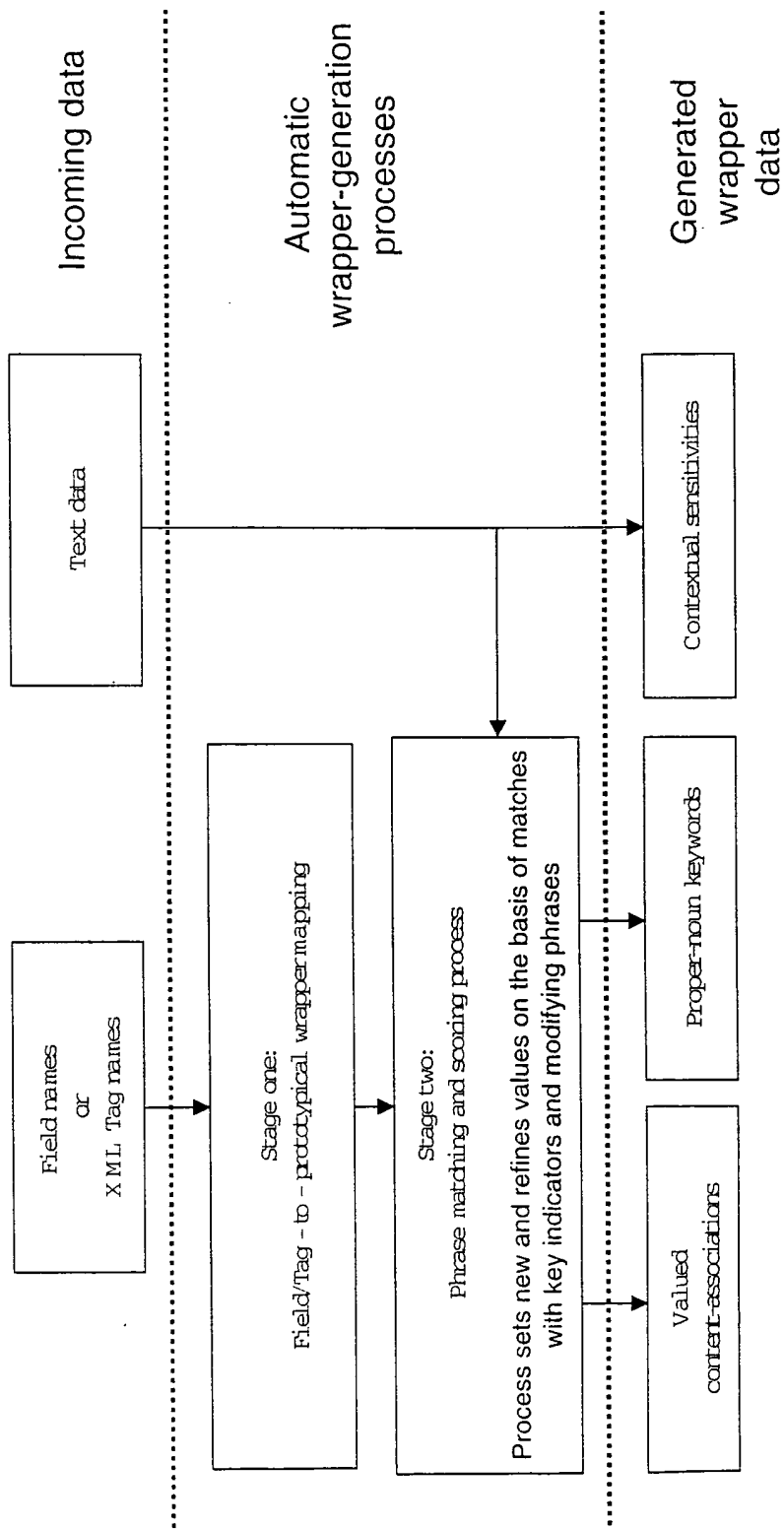


Figure 11

20240323 234450

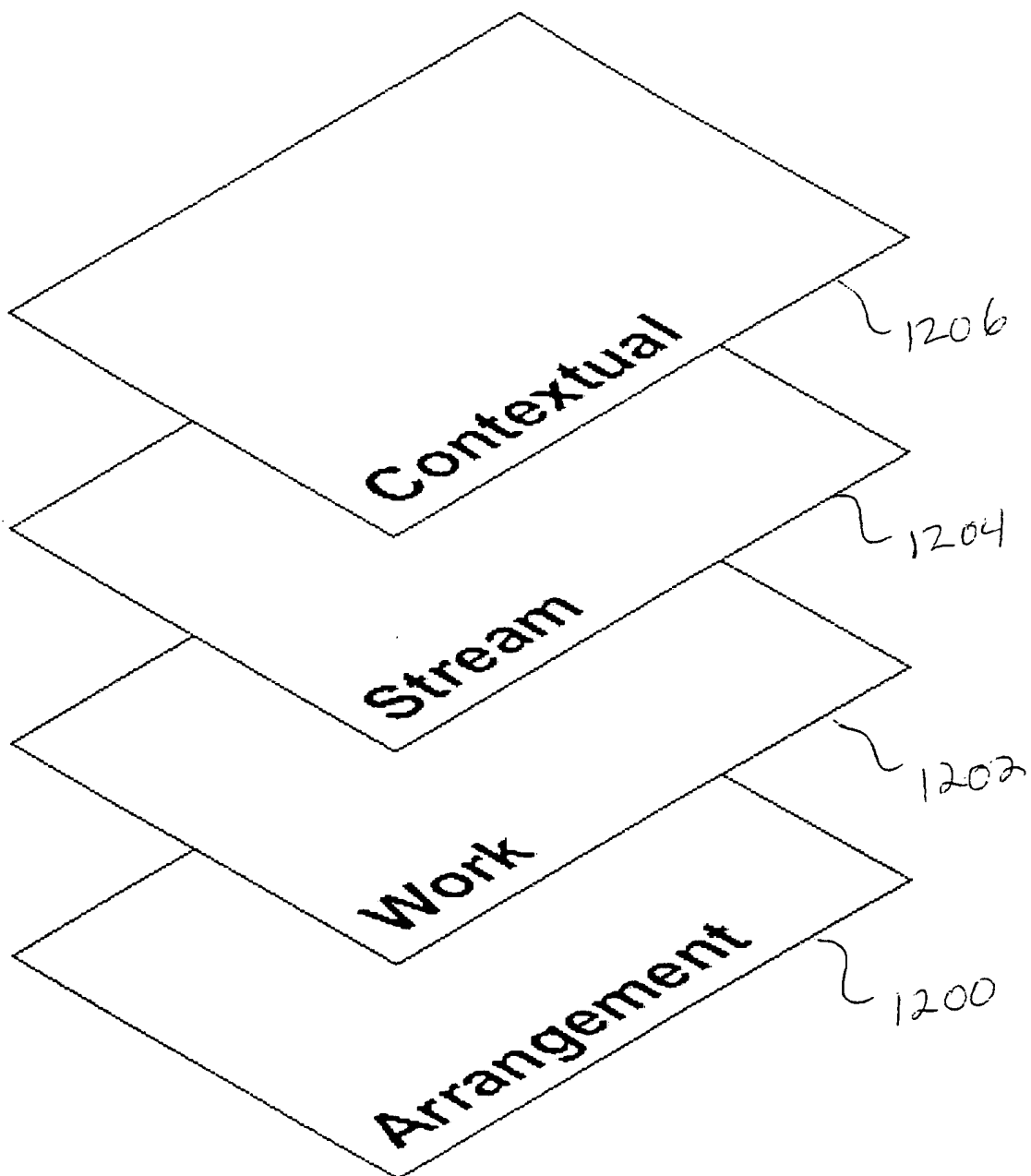


Fig. 12

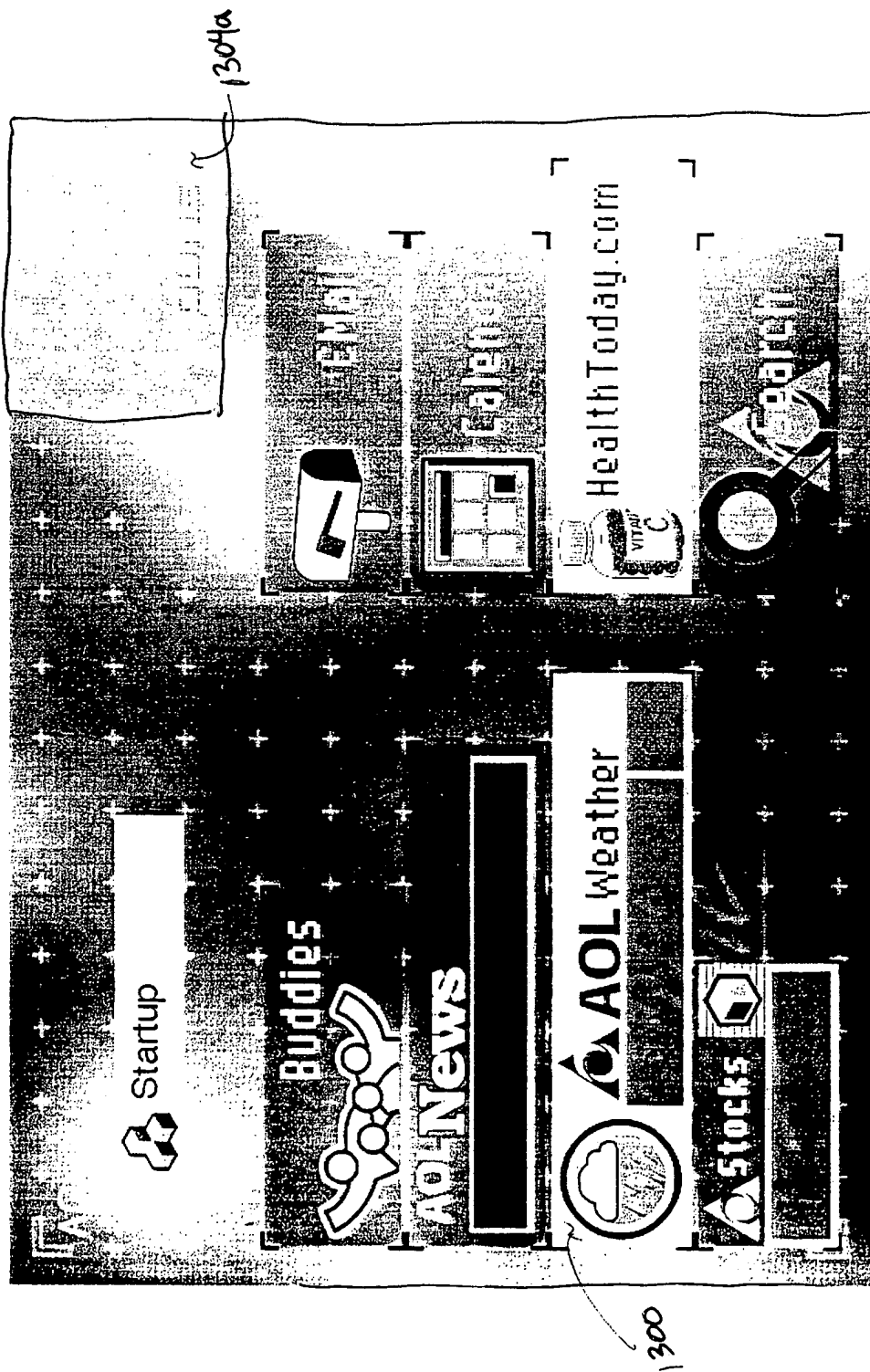


Fig. 13A

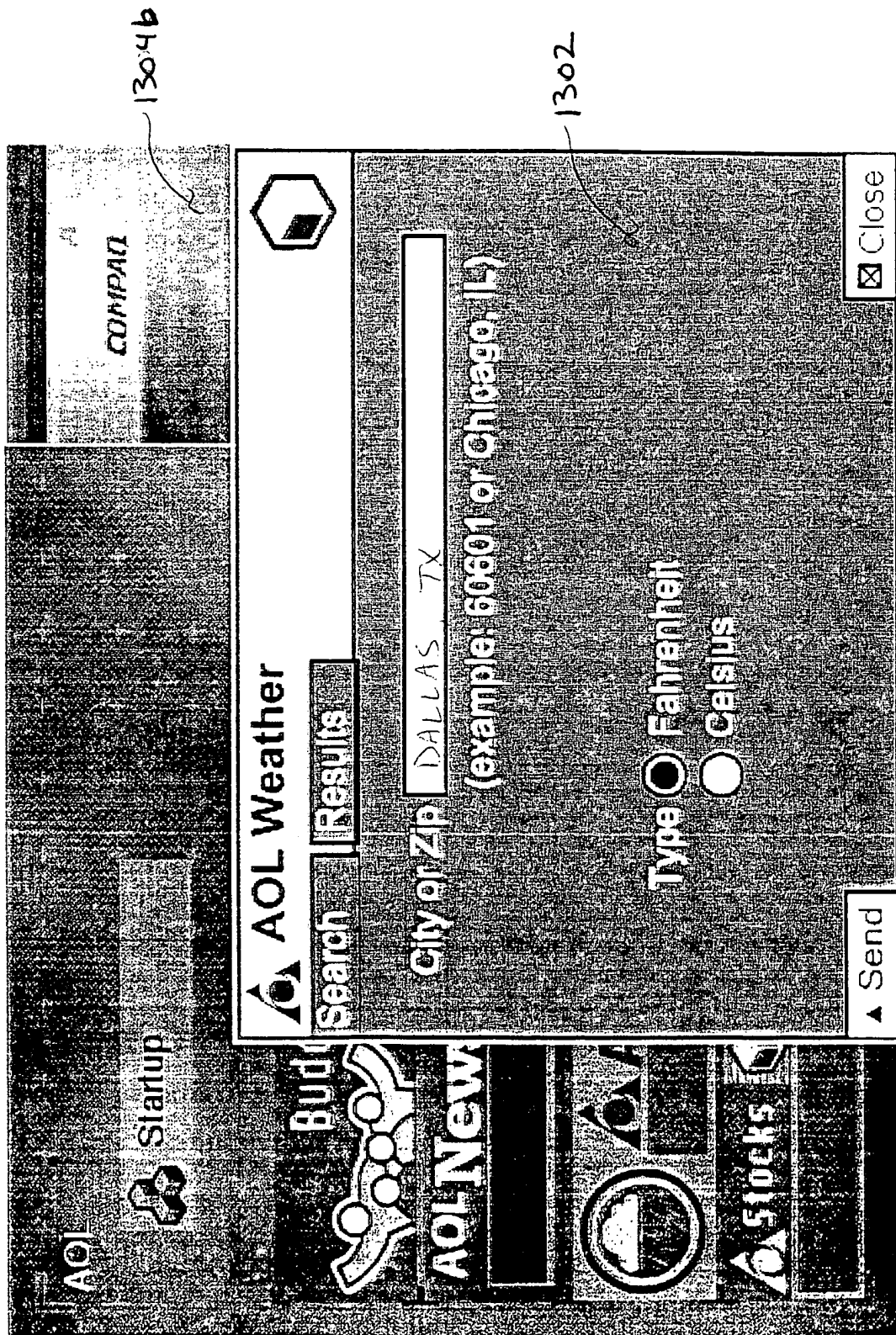


Fig 13b

20570 2044660

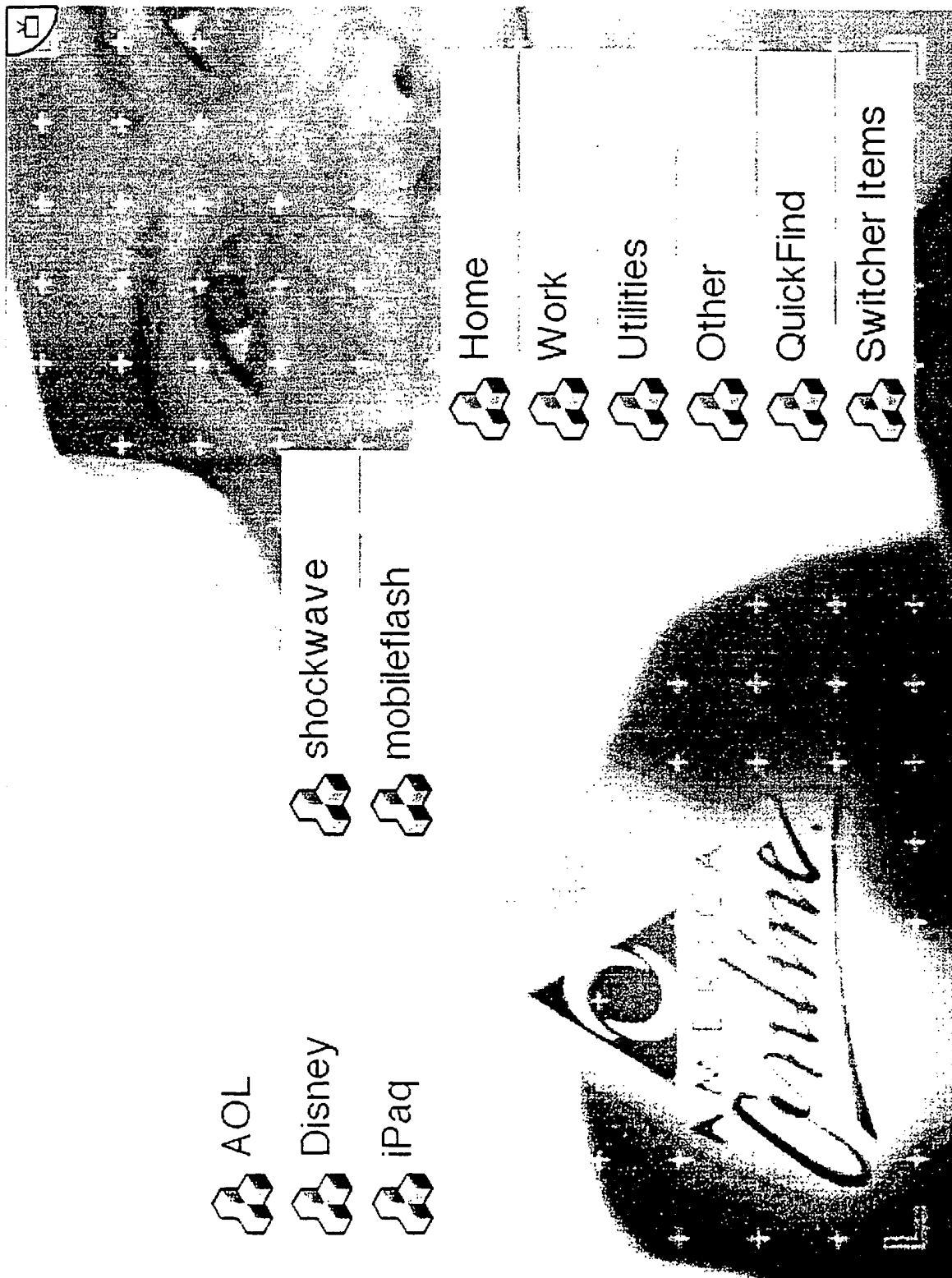


Fig. 14A

20570" 2844650

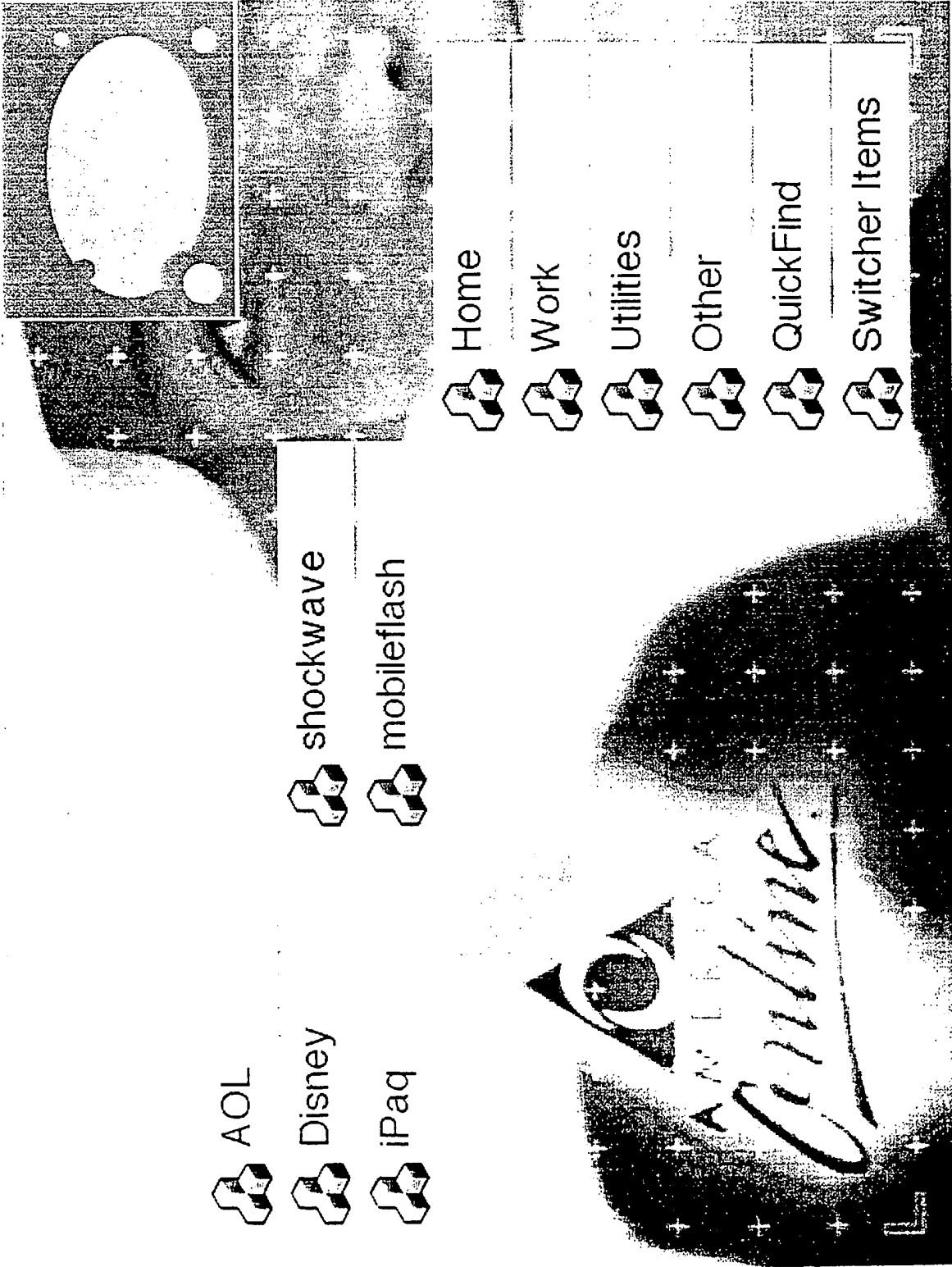


Fig 14B

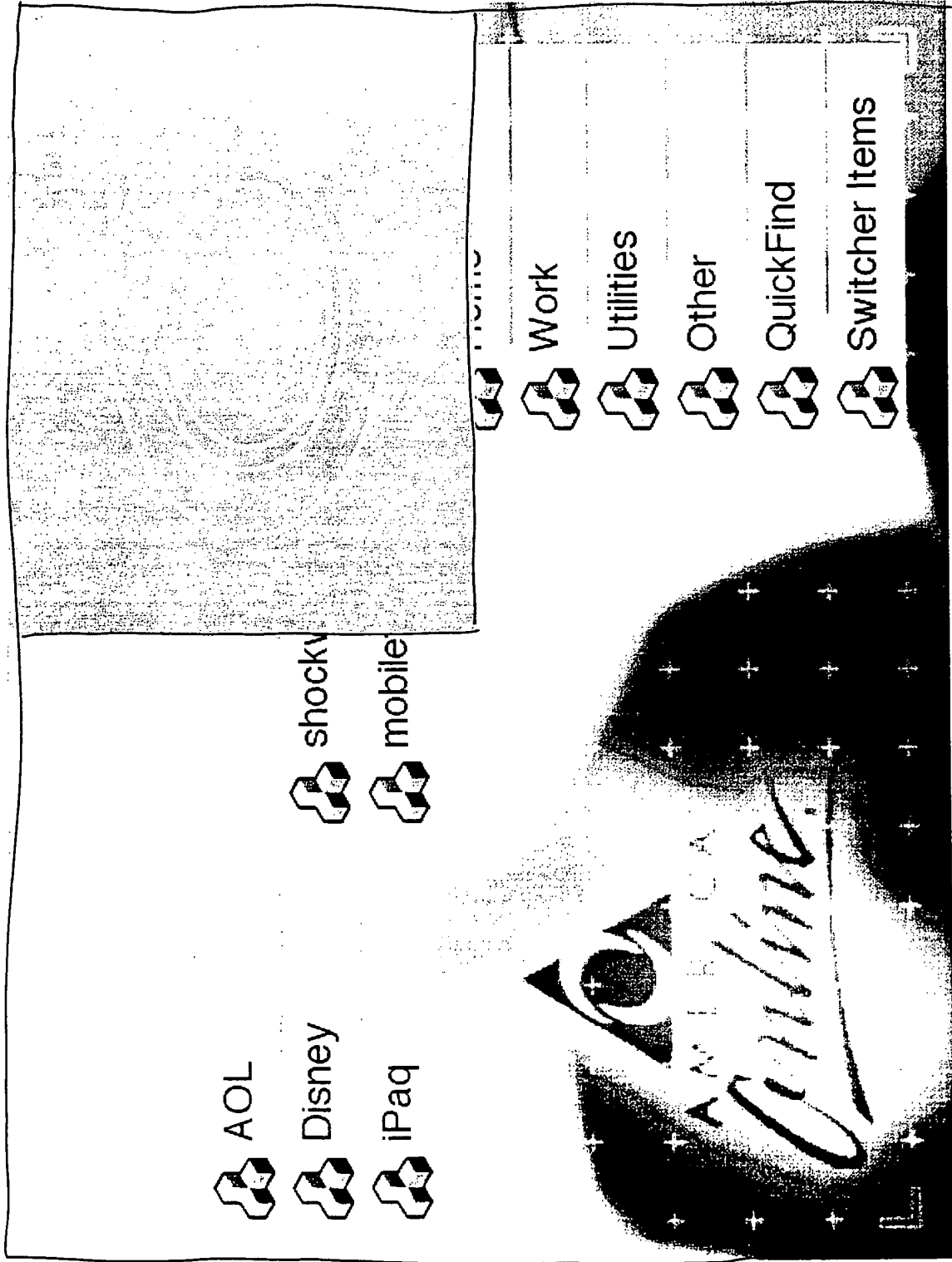


Fig 14C

20251101 20444558

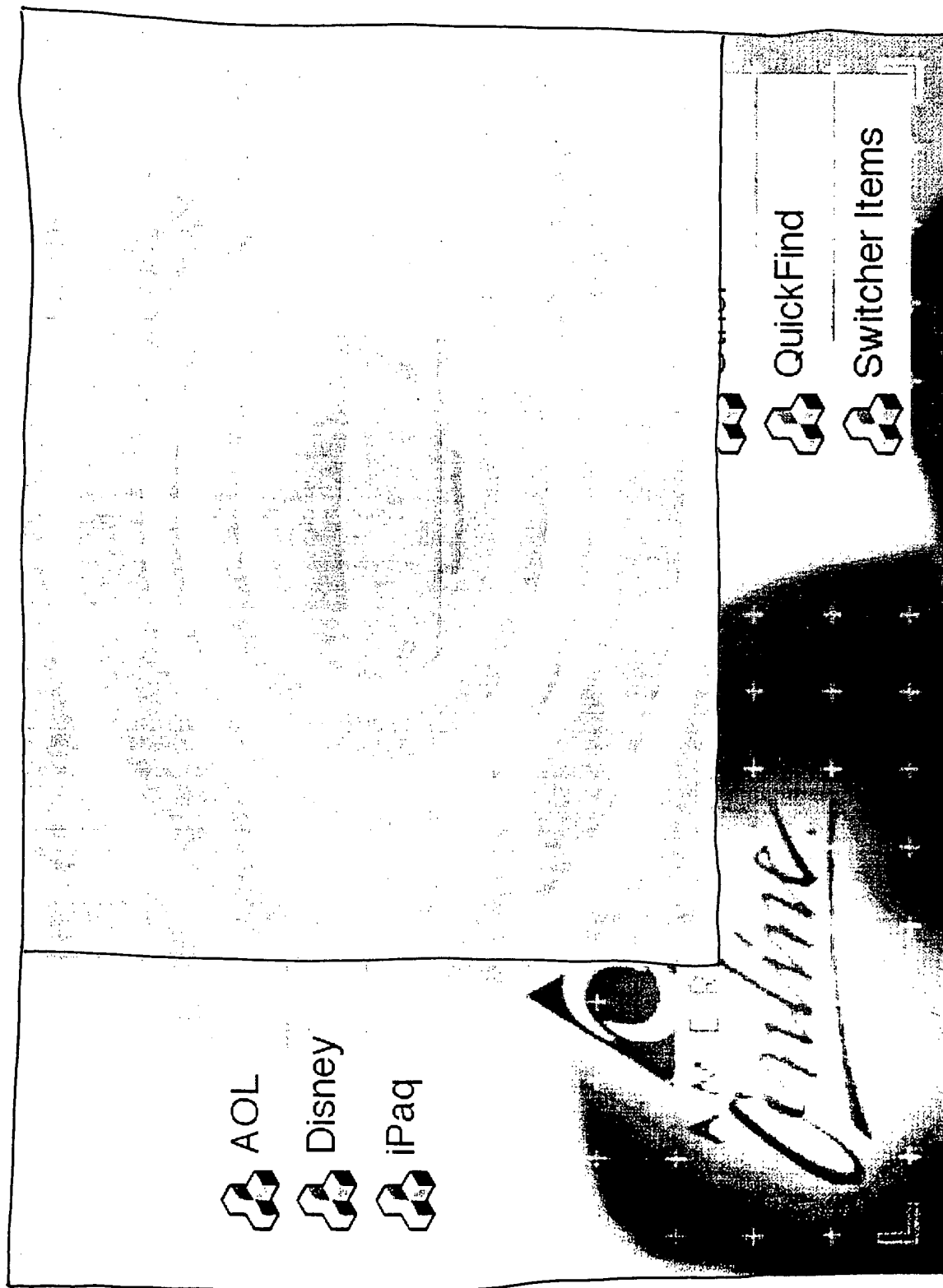


Fig 14D

634760-634760

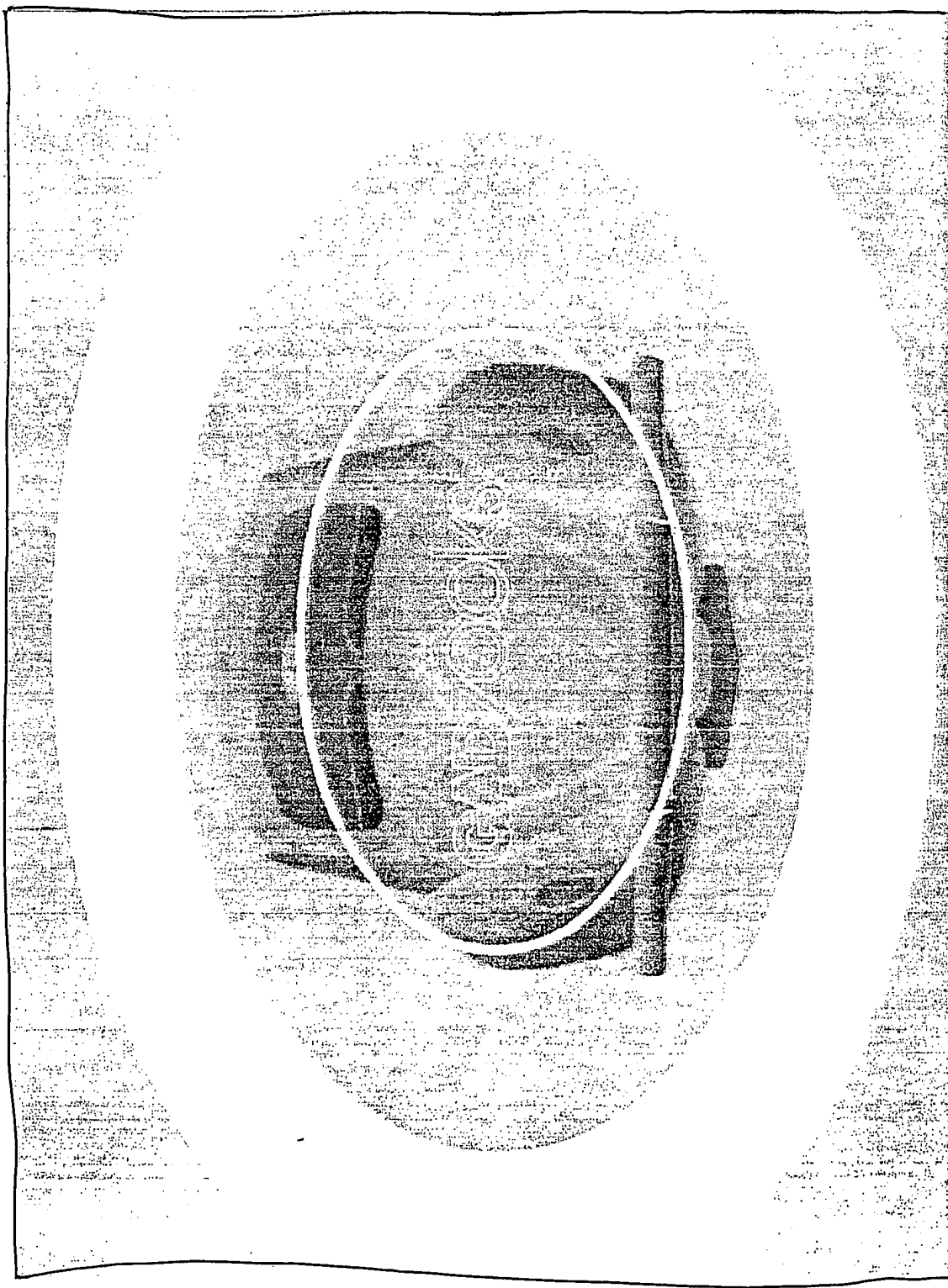


Fig 14E

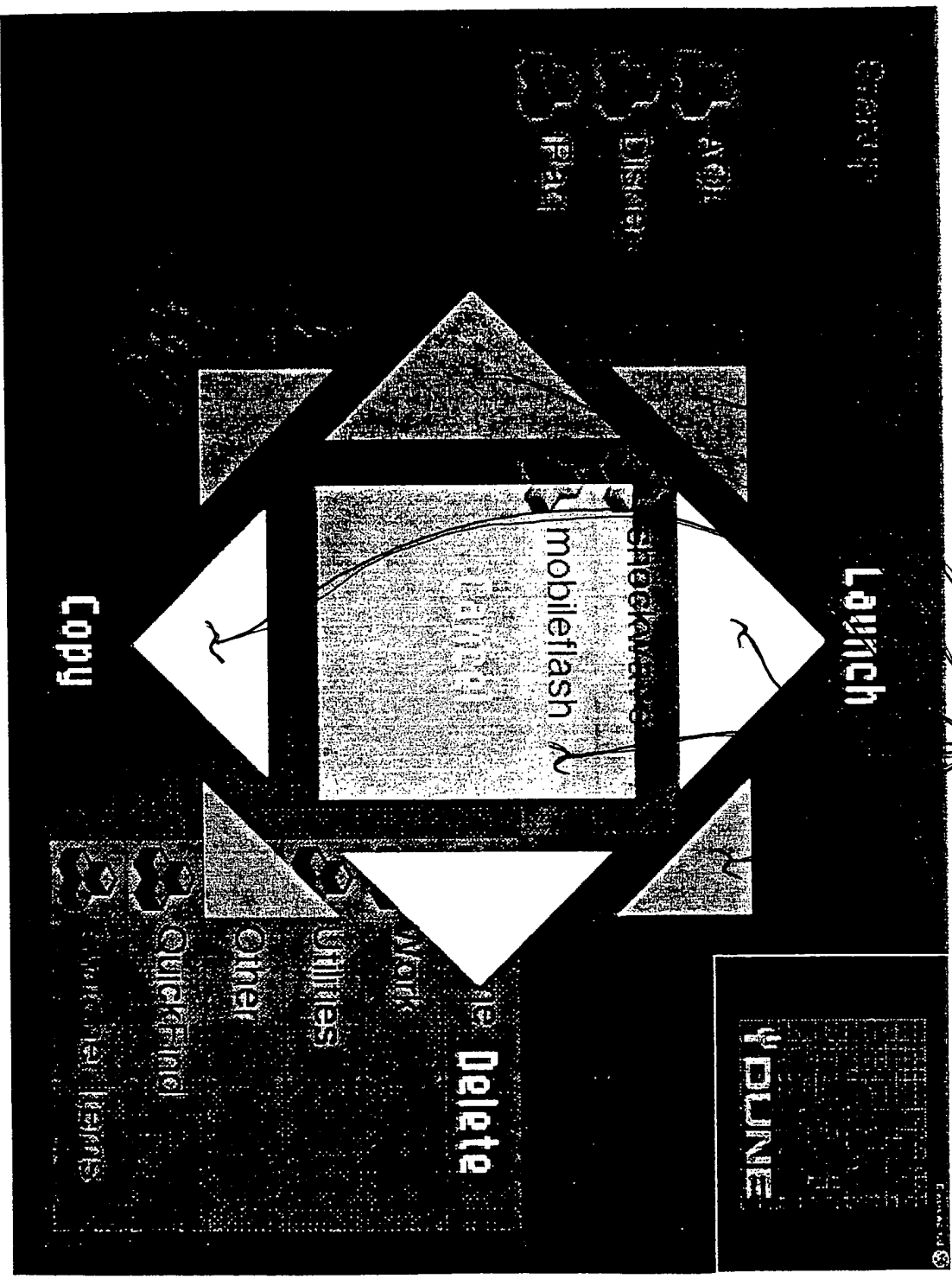


Fig. 15

09944482.01.1.502

1860

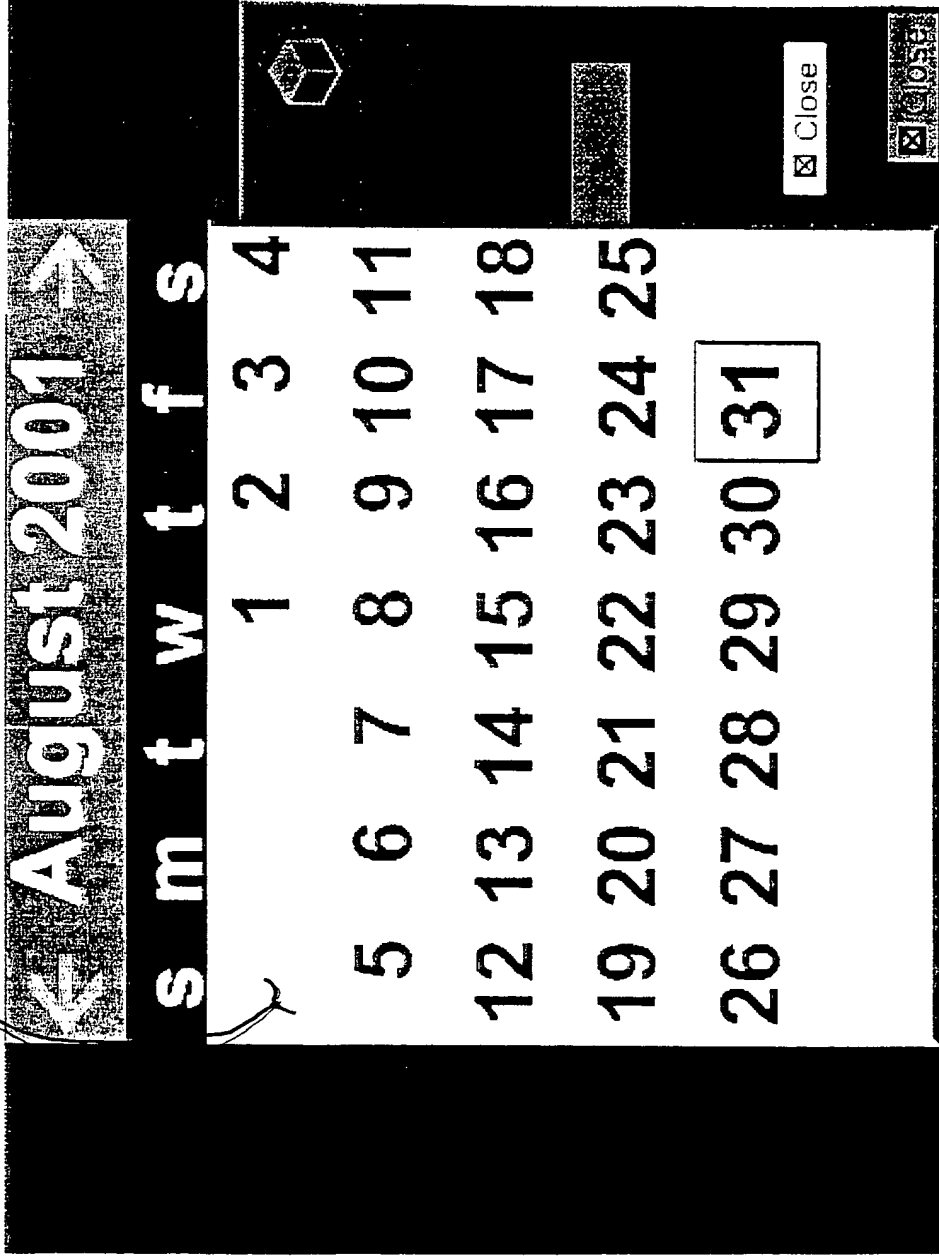


Fig 16

20570" 2844650

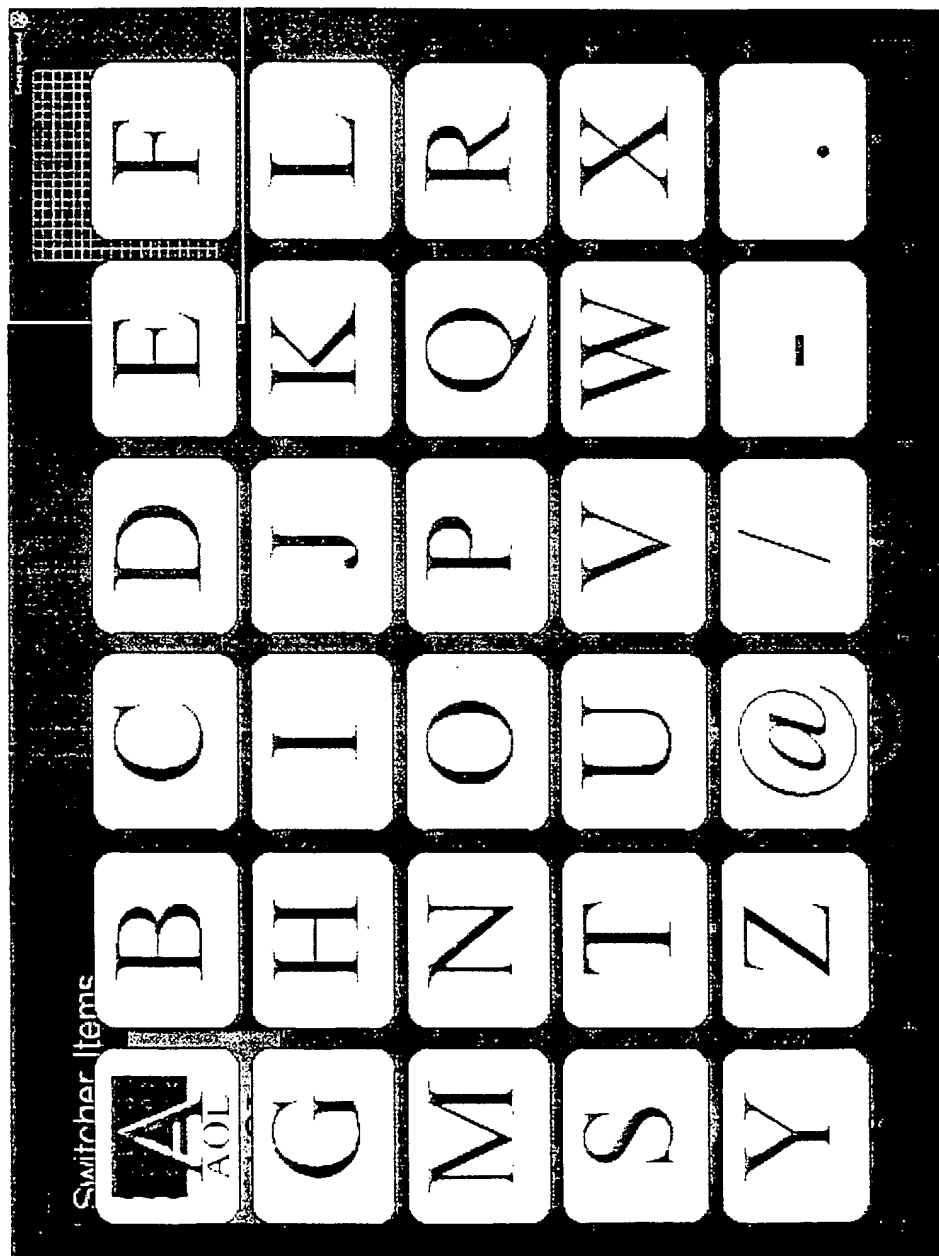


Fig. 17A

[illegible]

Fig 17B

[illegible]

Fig. 17C

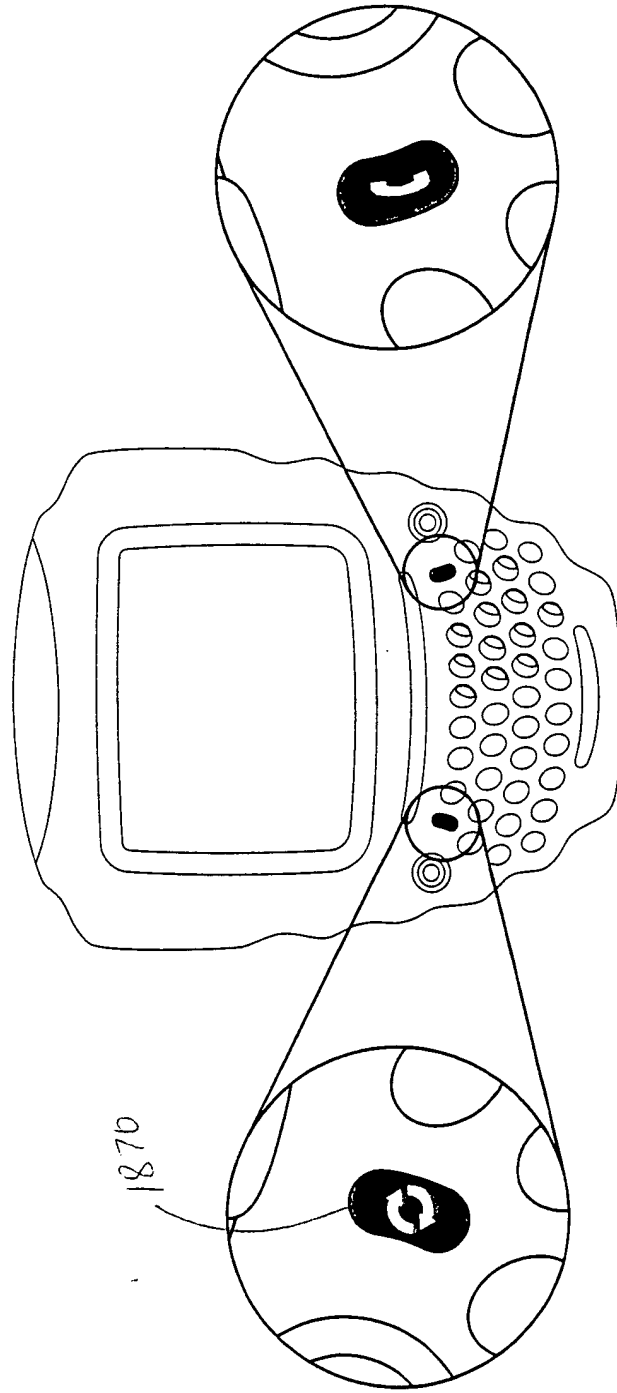


Fig. 17D

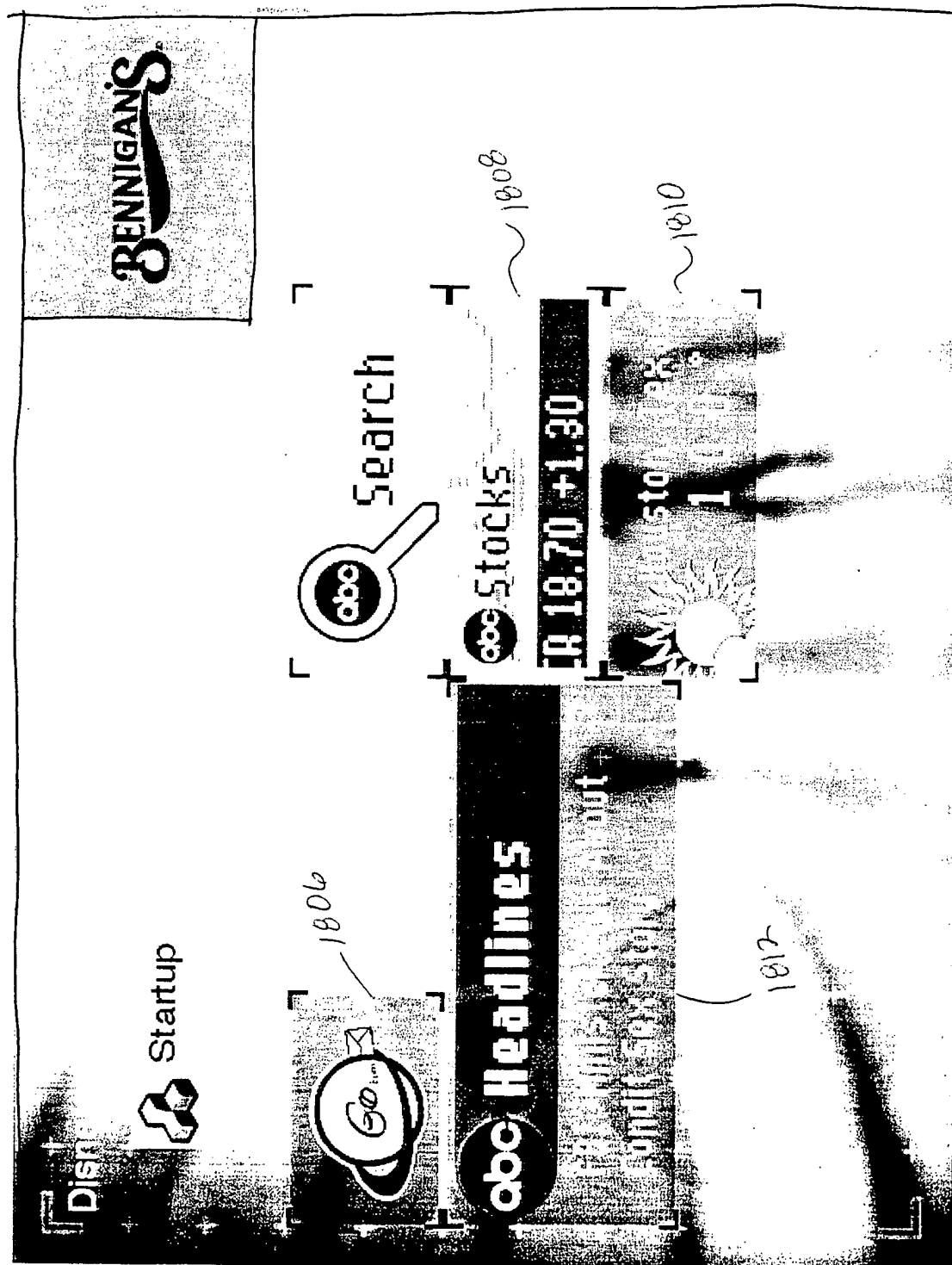


Fig. 18A

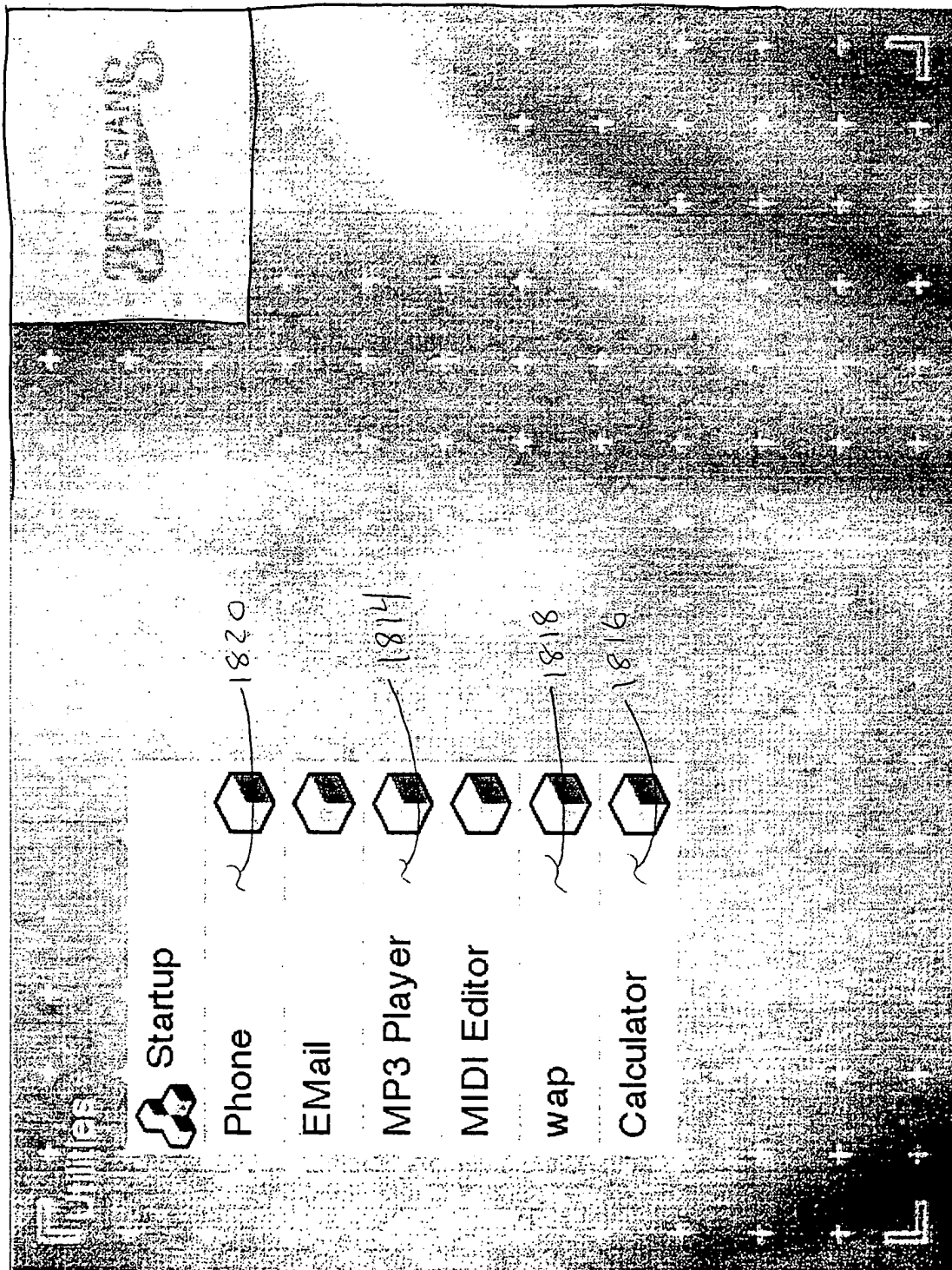


Fig 18B

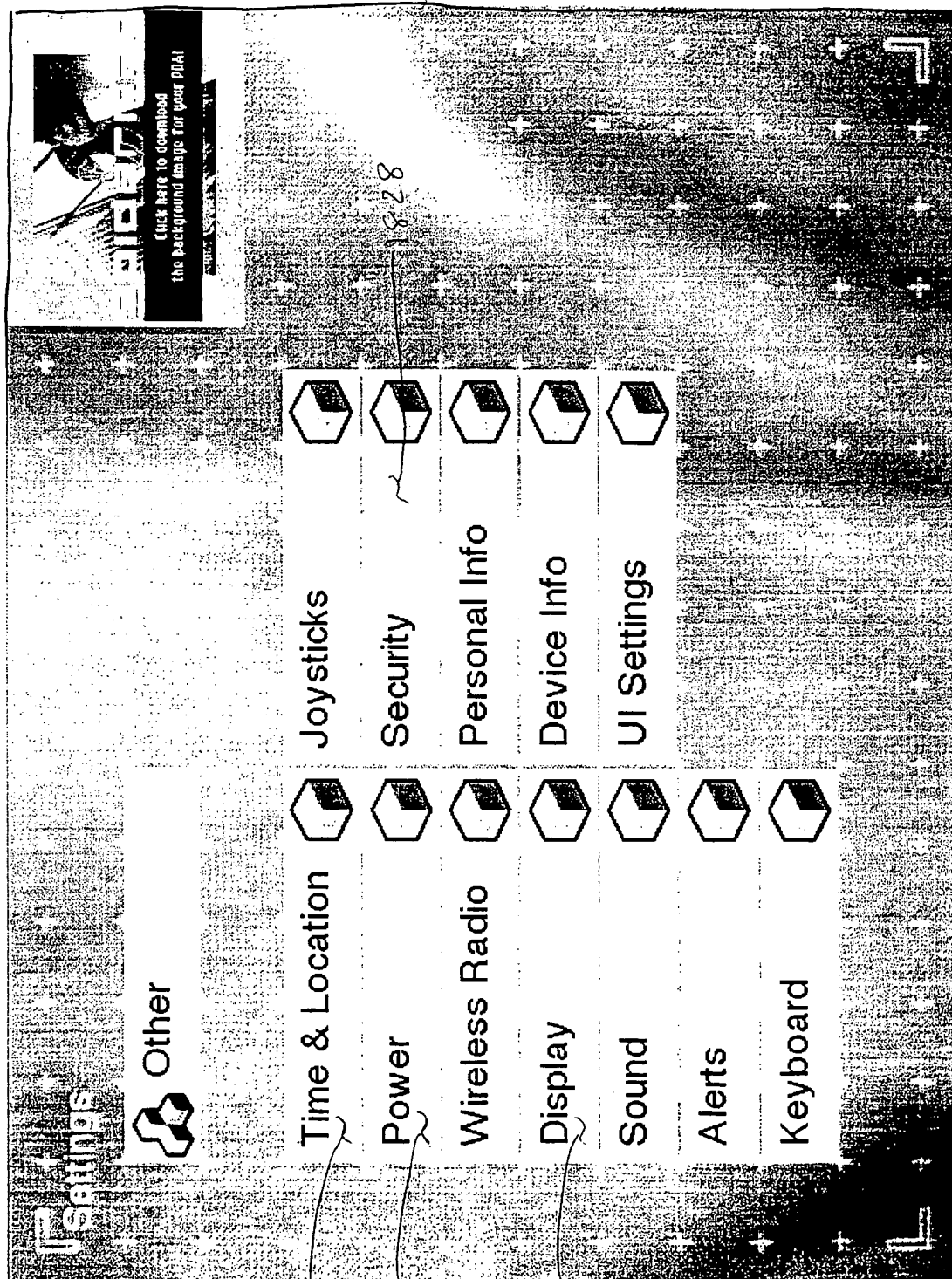


Fig 18c

205710" 20444650

1802

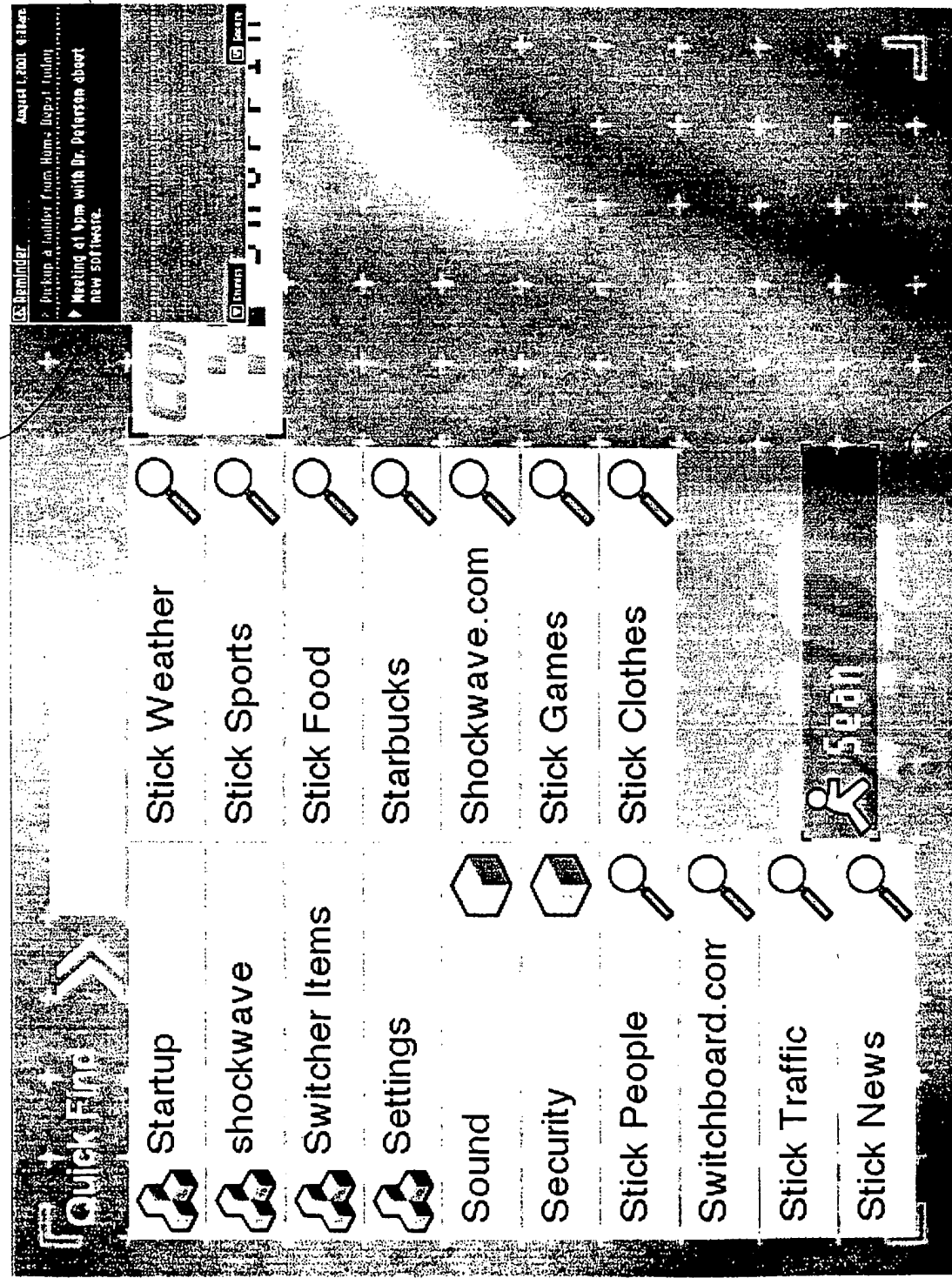


Fig 18D

1800

20044423 20044423

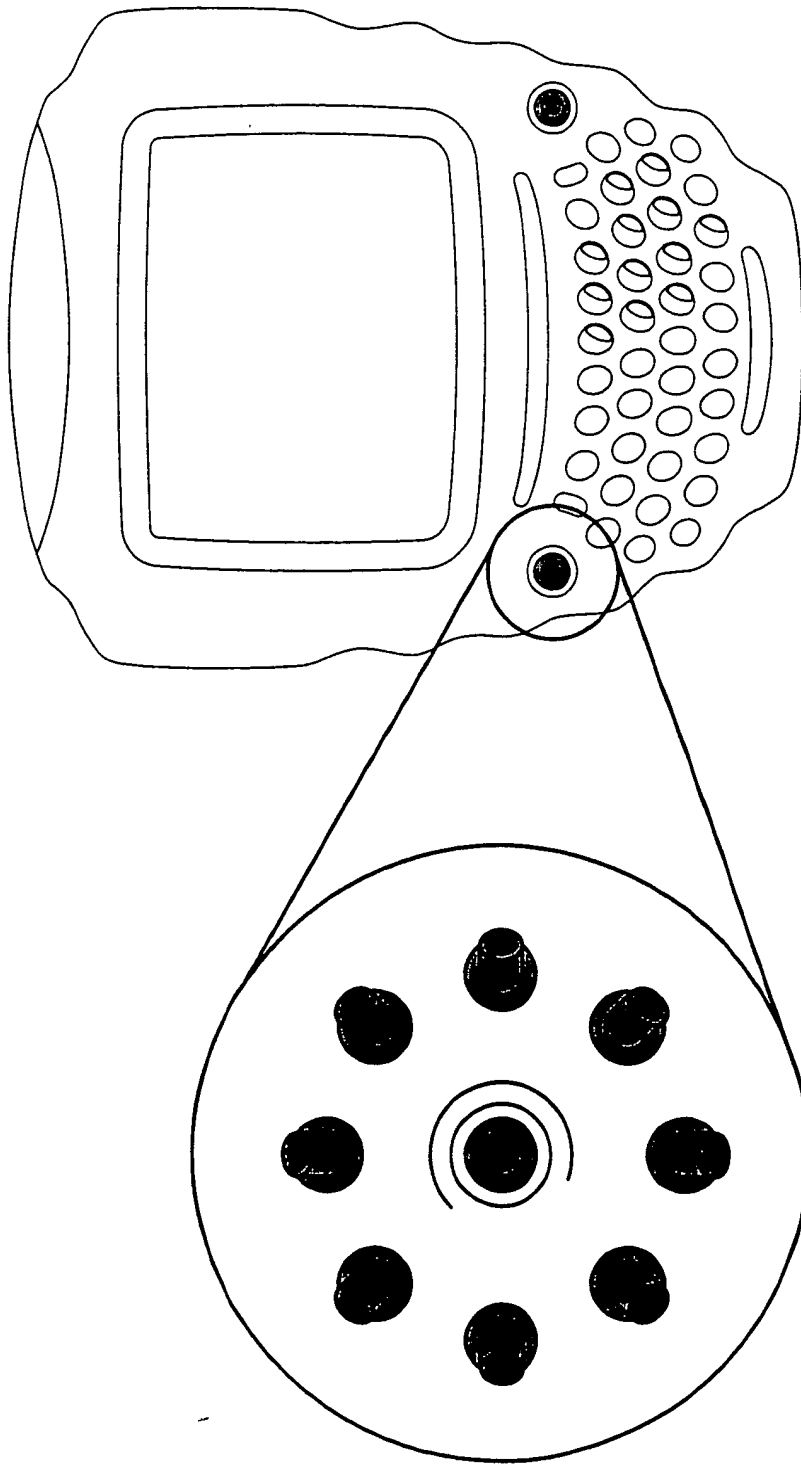


Fig 19